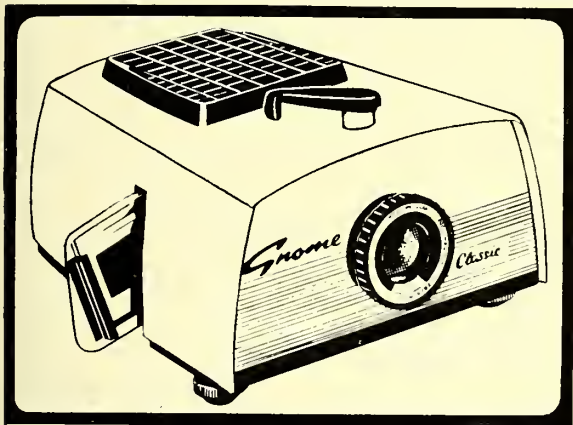


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and all sections of the drug, pharmaceutical,
fine chemical, cosmetic, and allied industries.

*Official organ of the Pharmaceutical Society of Ireland
and of the Pharmaceutical Society of Northern Ireland*

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August 21, 1965

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The CHEMIST AND DRUGGIST

Volume 184

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More Drug Addicts

HOME OFFICE REPORT TO UNITED NATIONS

THE number of known drug addicts in the United Kingdom rose by 118 during 1964 to a total of 753. That information is disclosed in the Government Report to the United Nations on the Working of the International Treaties on Narcotic Drugs. The report also states there has been a marked increase in the number of persons addicted to diacetylmorphine, especially in the younger age groups. An interdepartmental committee has been set up to consider the position and to make recommendations.

The number of addicts added to the Home Office index during the year was 263 of whom 246 were new addicts and 17 recidivists. 145 addicts were dropped from the index, 83 were considered to have been cured, 36 died and 26 disappeared. Of the 753 known addicts, 734 obtained drugs by licit means. The occupations of the known addicts include 58 in the medical profession or allied groups. The report also deals with the licensing of manufacturers and it states the following drugs were authorised to be manufactured during the year and were manufactured for domestic needs or for export: Anileridine, cannabis tinctures, cocaine, codeine, diacetylmorphine, diethylthiambutene, dihydrocodeine, dipipanone, ethylmorphine, hydrocodone, medicinal opium, methadone, morphine, normorphine, oxycodone, pethidine, phenadoxone, phenazocine, pholcodine, propoxyphene, thebacon, thebaine. In addition the manufacture of norcodeine was authorised but none was manufactured. Among those specially authorised by the Secretary of State to possess, trade in, distribute, or use, narcotic drugs were the following: Ambulance services 5, analytical research workers 26, brokers 6, manufacturers of patents and special medicines 54, nursing homes, etc., 19, wholesale dealers (including general manufacturers) 172, miscellaneous 18.

Industry on Television

A.B.P.I. TAKES ACTION

THE Association of the British Pharmaceutical Industry is making representations to the Independent Television Authority that the recent Granada programme on the pharmaceutical industry (see *C. & D.*, August 14, p. 165) did not comply with the provisions of section 3(1)(e) of the Television Act, 1964. That section requires "that due impartiality is preserved on the part of persons providing the programmes as respects matters of political or industrial controversy or relating

to current public policy." The A.B.P.I. memorandum of evidence is understood to contain comment on more than thirty alleged mis-statements or misrepresentation in the televised programme.

British Standards

NEW AND REVISED SPECIFICATIONS

AMONG a number of new British Standards that have been recently published are the following: B.S. 677 motion picture film, Part 4:1965 65-mm. and 70-mm. film (price 4s.). B.S. 3897:1965 Plastics (polythene) containers (price 3s. 6d.). B.S. 3903:1965 Methods of test for sulphuric acid (price 10s.), and B.S. 3914 Part 1 Aerosol dispensers. Non-returnable containers up to 620 c.c. for use with liquefied propellents (price 4s. 6d.). B.S. 627:1965 Sampling fats and fatty oils has been revised (price 10s.) as has B.S. 2782:1965, Methods of testing plastics (price £3 10s.). Among the Amendment slips that have been issued is P.D. 5548 amending B.S. 521:1964. Cresylic acid of specified meta-cresol content. Copies of the specifications and amendments may be obtained from the British Standards Institution, 2 Park Street, London, W.1. In the *B.S.I. News*, August, Dr. K. R. Capper (director, Department of Pharmaceutical Sciences, Pharmaceutical Society of Great Britain) has contributed an article on Containers for Pharmaceutical Dispensing. He states that by providing specifications for a far wider range of containers for pharmaceutical dispensing than the previous standard, B.S. 1679:1965 will help to ensure the safety and efficacy of the increasing number of effective medicines now available. B.S. 3914 Part 1 (mentioned above) is the first in a series for aerosol dispensers. It lays down constructional and performance requirements for more commonly used sizes of metal container (up to 620 c.c. brimful capacity and 3 in. diameter). The tests relate to the strength of empty containers, pressure and leak-testing of filled aerosols, and

the filling volume of overfilled containers. The new series is intended primarily to safeguard the public against inadequately packaged or overfilled aerosols. It will shortly be extended to include larger metal containers, glass containers and components such as valves. Plastics containers and aerosols using less common propellant systems are also likely to be covered.

Dangerous Drugs¹⁴

DEXTROPROPOXYPHENE EXEMPTION

THE Dangerous Drugs Act 1965 (Modification) Order, 1965 (H.M. Stationery Office, price threepence), effective September 1, frees dextropropoxyphene [Distalgic, Darvene, Doloxene] from control under Part III of the Dangerous Drugs Act 1965. On and after that date it will no longer be necessary for pharmacists, wholesalers or manufacturers to retain invoices relating to dextropropoxyphene. The Dangerous Drugs Regulations, 1965 (H.M. Stationery Office, price threepence) also effective September 1 makes provision for inserting nicodine, which was subjected to full control under the Regulations, into Schedule 2. Preparations of nicodine are to be subject to the controls similar to those for codeine and in particular they can be sold by an authorised seller of poisons, without a prescription.

Expansion in Thailand

BRITISH COMPANY'S INVESTMENT

THE Bangkok factory of Glaxo-Vidhyasom, Ltd. (a subsidiary of Glaxo Group, Ltd.), was opened recently by H.E. Pote Sarasin (chairman of the Board of Investment, Thailand). The occasion marked a great stride forward, he said, in the expansion of the pharmaceutical industry in Thailand. The



OPENING CEREMONY: With H.E. Pote Sarasin, who is cutting the ribbon, is Mr. L. D. B. Bryceson (general manager, Glaxo-Vidhyasom, Ltd.).

pharmaceutical was one of the industries encouraged by the Thailand Government under the Industrial Promotion Act. The Glaxo Group was represented by Sir Harry Jephcott (president), who said that the Group's policy had been to set up, so soon as circumstances made it appropriate, overseas organisations that would become an integral part of the life and industry of the country in which they were established.

Male-fertility Drugs

GRANTS AND RESEARCH

A STUDY of the action of anti-tumour agents that affect male fertility will soon be housed in specially converted laboratories at the University of Manchester. A grant of £12,000 for that purpose has been made by the Wellcome Trust to Professor H. Schnieden and Dr. H. Jackson of the department of pharmacology. Personnel and equipment for the project are being financed by a grant of \$113,000 over five years from the Ford Foundation. Dr. Jackson, who is head of the department of experimental chemotherapy at the Christie Hospital, Manchester, has a world-wide reputation as a result of

his work on drugs influencing fertility and drugs affecting the embryo. In 1961 he received the Oliver Bird medal and prize for that work.

Chemists' Retail Sales

BOARD OF TRADE STATISTICS

THE index of retail sales by chemists and photographic dealers in June was 120 (average monthly sales in 1961 = 100), an increase of 6 per cent. over the same period a year earlier. Figures recently issued by the Board of Trade also reveal the following indices for the month:—

Independent retailers	121 (+ 3 per cent.)
Multiple retailers	121 (+10 per cent.)
Co-operative societies	110 (+ 5 per cent.)

The figures do not allow for receipts to chemists under the National Health Service.

Drug Tariff

AN ADDITION ON SEPTEMBER 1

THE Minister of Health has prepared a notice (E.C.N. 525) drawing the attention of general practitioners to the addition of the following item to Part VI of the Drug Tariff as from September 1. Chemists are to be advised in

the July quarterly amendment to the Drug Tariff: Hydrargaphen-prednisolone ribbon gauze (Drug Tariff specification): The dressing consists of a 1-yard length of $\frac{1}{2}$ -in. impregnated ribbon gauze (self-sterilising) for use in packing infected ear cavities (otitis externa).

Pesticides

SUGGESTED COMMON NAMES

COMMENTS on the following suggested common names for pesticides are sought by the British Standards Institution. They should be addressed to Mr. D. G. Berry, B.S.I., 2 Park Street, London, W.1.

PROPOSED COMMON NAME	CHEMICAL NAME
Allidochlor	NN-diallylchloroacetamide
Chlorphonium	tributyl-2,4-dichlorobenzylphosphonium ion
Cypomid	3',4'-dichlorocyclopropanecarboxanilide
Diprolam	S-ethyl NN-dipropylthiocarbamate
Fenac	2,3,6-trichlorophenylacetic acid
Fensulfothion	diethyl 4-(methylsulphonyl) phenyl phosphorothionate OO-diethyl O-[4-(methylsulphonyl) phenyl] phosphorothioate
Probum	S-propyl N-butyl-N-ethylthiocarbamate
Propanil	N-(3,4-dichlorophenyl) propionamide
Propanochlor	2-chloro-N-isopropylacetanilide
Thio-allate	N-(2-methylcyclohexyl)-N'-phenylurea
Siduron	2-chloroallyl NN-diethylthiocarbamate

Agricultural Chemicals

NEW REGULATIONS ISSUED

THE Agricultural (Poisonous Substances) (Amendment) (No. 2) Regulations 1965 (H.M. Stationery Office, price threepence), effective August 18, add thionazin and fentin hydroxide to the list of those to which the Agriculture (Poisonous Substances) Regulations apply. Thionazin is made a Part II substance and fentin hydroxide is made a Part III substance under the Regulations. Farmers and growers must by law ensure that their workers handling those chemicals wear protective clothing appropriate to the chemical in use and to the operation performed.

Sulphuric Acid

PRODUCTION IN SECOND QUARTER

PRODUCTION of sulphuric acid by members of the National Sulphuric Acid Association during the quarter ended June 30 totalled 821,354 tons calculated as 100 per cent. H_2SO_4 . Sales during the period amounted to 835,000 tons.

IRISH BREVITIES

THE REPUBLIC

THE following officers for 1965-66 were elected at the recent annual meeting in Dublin of the Association of Hospital and Public Pharmacists:—*Chairman*, T. McLoughlin; *Vice-chairman*, Mrs. P. D'Arcy; *Treasurer*, Miss N. J. McCarthy; *Secretary*, Miss A. McCarthy; *Assistant secretary*, Mrs. M. Somers.

SAFETY OF DRUGS COMMITTEE

Pamphlets on warning system and anti-arthritis drugs

THE Committee on Safety of Drugs has circulated to all doctors and dentists in the United Kingdom two further pamphlets in its "adverse reactions series." Pamphlet No. 2, "Early warning system" describes briefly the way in which the Committee deals with the reports of adverse reactions sent in by doctors and dentists on the yellow cards supplied to them. The Committee has now received over 3,000 reports. Occurrence of the same type of reaction in a variety of patients from whom the main common feature is receipt of a particular drug is considered to create a *prima facie* argument that the reaction is drug induced. The Committee's experience suggests that so few as five to ten reports of occurrences of a similar nature can properly stimulate action for securing more information or justify the issue of a warning.

Drugs Related to Amidopyrine

Pamphlet No. 3 summarises reports of adverse reactions to five drugs. It says that the anti-arthritis drugs phenylbutazone (Butazolidin), oxyphenbutazone (Tanderil), and nifenazone (Thylin), which are chemically related to amidopyrine, appear to share that compound's well-known tendency to damage the bone-marrow. Since early in 1964, fifty reports of serious complications with eighteen deaths have been reported in patients who were being treated with phenylbutazone. There were sixteen comparable reports with five deaths in patients being treated with oxyphenbutazone and four reports of serious complications, none fatal, in which nifenazone was involved. There were five cases of liver damage and nine cases of peptic ulceration suspected to be due to phenylbutazone or oxyphenbutazone. Fifty-two patients who were being treated with those

drugs later developed blood dyscrasias.

The pamphlet says that statistics show that in 1964, the estimated number of National Health Service prescriptions from general practitioners was 2,600,000 for phenylbutazone and 510,000 for oxyphenbutazone. Only four cases of blood dyscrasias occurring in patients being treated with nifenazone were reported, but there were only 45,000 N.H.S. prescriptions issued for that drug during the period. It therefore appears to the Committee that the smaller number of serious suspected adverse reactions to nifenazone compared with the other two drugs might merely reflect that it was prescribed less frequently.

Caution Advised

Among reports of suspected adverse reactions to indomethacin (Indocid) only eight reports have concerned serious complications. However, the Committee recommends that for the moment the drug should be used cautiously, with attention to possible adverse reactions. In December 1964, the Committee investigated reports of suspected adverse reactions to mefenamic acid (Ponstan). The only untoward effect consistently reported was diarrhoea. Its overall incidence was probably less than 5 per cent. but it has frequently been severe and sometimes associated with gastro-intestinal haemorrhage. When the drug has been withdrawn, the diarrhoea has ceased. The Committee emphasises, in circulating the information contained in pamphlet No. 3, that although the anti-arthritis drugs cause serious reactions in a small number of cases they regard the drugs as useful for serious conditions. They do not propose to make any recommendations to the Health Ministers about their use.

NEWS IN BRIEF

THE Index of Retail Prices for July was 112.7 (January 1962 = 100), the same figure as in June.

A TOTAL of 18,000 tablets were returned in a drive in Cheltenham to collect unwanted drugs, according to a report in the *Gloucestershire Echo*. More are still being handed in.

THE work of the Anti-Locust Research Centre from April 1961 to December 1964 is summarised in a report issued by the Ministry of Overseas Development (H.M. Stationery Office, price 5s. 6d.).

A BOOKLET on typhoid and paratyphoid fevers, prepared by the Standing Medical Advisory Committee of the Central Health Services Council, is being sent by the Ministry of Health to all general medical practitioners in the National Health Service.

THE General Council Circular No. 66 sets out an agreement of the General Whitley Council introducing new arrangements for payment of breakfast allowances to Health Service staff involved in long day absences from home and headquarters and a new rate of evening meal allowances for certain staff required to work late at night in addition to ordinary day duty.

REPORTS of two symposia have been published by the Pharmaceutical Press, 17 Bloomsbury Square, London, W.C.1. The symposia are "Collaborative Tests" (held at Brighton School of Pharmacy in May 1964) and "Identification of Drugs and Poisons" (held at the School of Pharmacy, University of London in March). Each report is priced at 12s. 6d. ("Collaborative Tests" plus sixpence postage).

AN automatic methods group, concerned with "mechanised and automatic methods and equipment in analytical chemistry," has been formed by the Society for Analytical Chemistry. Members of the Society may join the group on request to the secretary of the Society, 14 Belgrave Square, London, S.W.1. Non-members may receive notices of the meetings on application to Mr. D. C. M. Squirrell, Imperial Chemical Industries, Ltd., plastics division, Bessemer Road, Welwyn Garden City, Herts.

SPORT

Golf

IRISH CHEMISTS' GOLFING SOCIETY.—Nearly forty players competed at The Hermitage on August 12 for prizes presented by Gillespie & Co. Results: Class A, J. O'Connor (13) 36½; M. L. Cashman (11) 35½; B. R. Smith (9) 34½. Class B, J. Lennon (14) 35½; J. O'Keeffe (15) 32½; W. Butler (16) 32. Best gross score, T. J. Lynch. Special prize, Class B, C. O. Greene. The next outing is to Clontarf on September 1.

SOUTH LONDON AND SURREY PHARMACISTS' GOLFING SOCIETY.—A meeting was held at Cropham Hurst on August 11. Result: Captain's prize: 1, H. James, Laleham, 40 points; 2, G. Stanton, Royal Blackheath, 37 points (better score on last nine holes); 3, A. Wilson, Cropham Hurst, 37 points. Scratch to fourteen handicap prize, A. Talbot, Leatherhead, 33 points. U.C.A.L. prize, E. Foster, Woodcote Park, 33 points. Best score on first nine holes, S. S. Jamieson, Cropham Hurst. Best score on last nine holes, A. V. Hall, Banstead Downs. Visitors' prizes, 1, E. Harvey, Seaford, 32 points; 2, A. Chilcott, Cropham Hurst, 31 points.

TOPICAL REFLECTIONS

By Xrayser

Metric dose volumes

The net is closing in around us. It has been a gradual process, this onset of the metric system. It has been a sword of Damocles for more years than any pharmacist—even Mr. Humphreys Jones—can remember. (The subject has my emotions so involved that I must ask to be excused if I am carried away into broad-spectrum metaphor.) The threat, if I may so describe it, was with pharmacy all of a century ago, and was already old when my now ancient and shrinking shanks strode hopefully on to the pharmaceutical stage in what seems, in retrospect, to be another age. At that now far-off time, my immediate seniors were still trying to come to terms with a British Pharmacopoeia—that of 1914—which was formulated entirely according to the metric system. They, I recall, resented the abolition of the happy compromise of the 1898 edition, in which metric and Imperial appeared side by side. It will be seen, then, that as I said earlier, it has been a gradual process. We, of my generation, have had a lifetime to become attuned to the thought that one day—some day—we would adopt the metric system. It has crept up on us and around us, stealthily and inexorably. We, growing older, have tended to regard the threat as sufficiently far off to be ignored entirely. After all, our fathers and grandfathers had lived with it, and had left to practise pharmacy in another place (as they say at Westminster) without having to grapple with anything other than the apothecaries' system of weights and measures. But it now looks as if we shall have to learn new ways and to perform new tricks—a state of affairs no self-respecting "old dog" should be called upon to do. Yet pharmacists have a well-deserved reputation for adaptability. Many of us still practising have bridged the gap from Galen and Dioscorides to Fleming and beyond, and have done so with surprising and commendable facility. Why then should we look with misgiving on the changeover from a conglomeration of illogical and confusing data? Why cannot I accept that, in growing old, the best is yet to be?

The new arrivals

I have had recent experience of some of the present generation of pharmacists. They have been trained to think in metric terms, and early in our acquaintance I became aware that it is possible to be regarded as in the nature of an equilateral rectangle even in one's own chosen profession. The conversion to the other system will find the new generation fully equipped to deal with it with the same facility as that with which we displayed our mastery over the complexities of an ounce which measured 480 minims and weighed 437.5 grains. Of course, we veterans have had to come to terms with some aspects of the metric system. We are constantly handling tablets and capsules—laboratory manufactured it is true—of 0.1 mgm., 5 mgm., 100 mgm., and 250 mgm. If we ever pause to think of what such quantities would look like, we do a rapid translation into the much-maligned apothecaries' system, where that is possible. On reflection, the reluctance of the chemist and druggist to come to terms with the metric system probably arises from its application to extemporaneous dispensing, in which the prescriber is not entirely blameless. Many of the petty irritations arise from just the difficulties which have been faced by the Codex Revision Committee (p. 161).

Simplicity itself

A recent example of a metric prescription read as follows: "R: Chloral hydrate 650 mgm., tincture of opium 0.6 mil, water to 16 mil. Send 180 mils." It seems, to the uninitiated, that it will be necessary to multiply each of the ingredients by 11.25, with a result, in the case of the first ingredient, of 7.3125G. One has the impression that the prescriber's intention might almost have been met with doses of ten grains and ten minims respectively, and that he has not fully grasped that the essence of the metric system is its simplicity. The Codex Revision Committee has clearly faced the problem, but it is not enough for it to tell me. It must also impress the young prescriber I have quoted and the others who attended the same seat of learning.

FOOD FLAVOURS

Standards Committee proposes ban on sixteen substances

THE Food Standards Committee have advised the Ministers of Health to prohibit the use of sixteen flavouring agents in food. They are coumarin, dihydro-safrole, dulcamara, birch tar oil, tonka bean, iso safrole, pennyroyal oil, cade oil, safrole, agaric acid, oil of tansy, volatile bitter almond oil, sassafras oil, nitrobenzene, rue oil, male fern. The Committee's recommendations are included in the Food Standards Committee Report on Flavouring Agents (H.M. Stationery Office, price 3s.). The Committee state that their reasons for selecting those substances were largely based on pharmacological properties and in some cases evidence of probable toxicity. The Committee was informed that the substances were little used at the present time, although coumarin is at present being employed as a material in a programme of fundamental research on the effects of food additives on enzymes by the British Industrial Biological Research Association. "The outcome of this research could be of great importance for the future consideration of the safety in use of food additives generally . . ." Although they recommend a review of all flavouring materials again in five years' time, the Committee indicate in their report that they would be prepared to consider any toxicological evidence on such substances as it becomes available. An appendix to the report refers to various additives controlled in other countries.

The Minister of Agriculture, Fisheries and Food has pointed out that the Government are not committed by the publication of the Report and will give full consideration to any representation made by interests concerned. Such representations from any part of the United Kingdom should be addressed to the secretary, Food Standards Division, Ministry of Agriculture, Fisheries and Food, Great Westminster House, Horseferry Road, London, S.W.1, to arrive not later than November 12.

The Committee recommend that the proposed prohibited list should only be regarded "as a transitional stage" and that eventually regulations should be introduced based upon the use of a list of permitted flavouring agents. During the transitional period, the list of prohibited flavouring agents "could easily be extended to include any substances proved to be harmful or open to suspicion." The Committee were of the opinion that such a form of control would afford additional safeguards to public health but not to the same extent as would a list of permitted flavouring agents, if such a list could be established on toxicological evidence.

Flavouring agents for use in food might be sold as pure natural oils or flavouring mixtures or flavouring essences containing a solvent. The Committee feels that all containers of flavouring agents intended for use in food should be conspicuously marked with the description indicating whether it is a natural flavour, or a natural flavouring with fortification, or a syn-

thetic flavouring. The Committee make no precise recommendations as to container labelling but state they would expect flavourings as a class to be treated in the same way as other food additives "such as colours." The Report indicates that representations have been received for a number of acids, previously submitted for use primarily as flavourings, to be considered as acidifiers. The Committee has therefore decided to postpone classification of the following acids and to make no recommendations on their use in food. The acids are: Formic acid, propionic acid, lactic acid, crotonic acid, butyric acid, 2-ethylbutyric acid,

iso valeric acid, hex-2-enoic acid, methylamylactic acid, monoic acid, a-caprylbutyric acid, lauric acid, 14-hydroxytetradecanoic acid, stearic acid, malonic acid, malic acid, maleic acid, adipic acid, citric acid, phenylacetic acid, hydrocinnamic acid, gallic acid, pyroligneous acid, acetic acid, pyruvic acid, laevulinic acid, tiglic acid, isobutyric acid, valeric acid, caproic acid, heptonic acid, caprylic acid, capric acid, undecylenic acid, myristic acid, palmitic acid, oleic acid, succinic acid, tartaric acid, fumaric acid, sebacic acid, benzoic acid, cinnamic acid, tannic acid, hydrochloric acid and phosphoric acid.

The Committee intend to seek further information from interested parties concerning the use of such acids and to report on them together with other classes of additives under review.

A NEW HOSPITAL AT HARLOW

Pharmacy department in a central position

EARLIER this year Princess Alexandra formally opened a hospital bearing her name at the "new town" of Harlow, Essex. The hospital's pharmacy is well equipped, spacious and light, and the envy, therefore, of the many hospital pharmacists still confined to basement level in old buildings. The department, which faces south, shares the ground floor of the west wing with pathology, and the two departments open on to a common corridor from the main foyer. To the right are stores for sterile fluids and for drugs and bottles, as well as a clerk's room. In the left-hand wall of the corridor are openings for basket cupboards, placed there from dispensary at rear.

Specially designed baskets of PVC-covered wire are used for ward stock deliveries—baskets holding six Winchester in the mornings, and a three-section basket with lockable centre section (for the safe transmission of poisons) for the mid-day delivery of prescription and other drug items. All ward stocks of tablets, capsules, etc., pre-packed.

Most of the wall space on three sides of the dispensary is fitted with glass-fronted stock cupboards above teak-topped benches (preferred to laminated plastics by the chief pharmacist, Mr. D. C. Fenton-Jones). Three stainless-steel sinks in the fourth, south-facing bench command views of the town to the countryside beyond. Centrally placed in the room are two more work benches, one with heated ointment slab. Next to the dispensary are the chief pharmacist's office and sterile products room, the latter equipped with two autoclaves, each taking fifty 1-litre bottles. The hospital medical committee's policy is to use no rubber-capped vials, so ampoule filling is a regular feature of the department's work, in addition to the production of bulk fluids. A small room for aseptic work bears evidence of having been designed without the pharmacist's guidance for there is no filtered air supply.

Nearing completion in the hospital's new east wing is a second sterile products department intended to service all hospitals in the group. Its facilities



Teak fittings are a feature of the dispensing department.



General view of the sterile-products room.

—bottle washing, fluid preparation, sterilisation, and storage—are arranged in a “flow-line” in one long room. The main piece of equipment is a rapid spray-cooled autoclave, handling 120 1-litre bottles in each one-hour cycle (against a four-hour cycle for conventional water-jacketed autoclaves). Present expectations are of a daily output of 300 litres of sterile intravenous and topical fluids. Space has been reserved for a second autoclave.

A close liaison exists between the pharmaceutical departments of the group, and it is hoped to allow staff of the other hospitals to gain experience in the new sterile products section at Harlow. The five chief pharmacists of the group (which comprises St. Margaret's, Epping, Hertford County, Herts and Essex General and Honey

Lane hospitals) have set up a group pharmaceutical committee, which has been recognised by the management committee. Besides co-operating in the contract buying of drugs, the new committee has already played its part in formulating drug-handling rules for nurses. Printed material is being standardised and comparative drug costs are being circulated to medical staffs, while a system of patient reference cards (to be carried by diabetics and others needing special treatment in cases of accident) is being organised on a trial basis.

The committee is urging that the capital equipment expenditure of the pharmaceutical departments should no longer be the responsibility of the medical committee, which is without pharmaceutical representation.

IN PARLIAMENT

BY A MEMBER OF THE PRESS GALLERY, HOUSE OF COMMONS

MR. DEREK PAGE asked the Minister of Health what steps he proposed to take to ensure that retail sales of drugs were adequately supervised by qualified pharmacists in appropriate cases. On August 4 MR. KENNETH ROBINSON stated that retail sales of drugs which were listed as poisons were at present required to be supervised by registered pharmacists. During the consideration of the provisions which might be included in new drugs legislation, with the Home Secretary he was examining whether other requirements for supervision of the sale of drugs by pharmacists were called for.

Infertility Treatment by Hormones

MR. C. J. S. ROWLAND asked the Minister of Health what control was exercised over the use of fertility hormone treatment under the National Health Service. MR. KENNETH ROBINSON'S reply on August 5 was: “Any new hormone preparation promoted commercially would be subject to checks by the Committee on Safety of Drugs before clinical trials or marketing and hence before general use in the National Health Service. The pituitary hormone extract for the treatment of infertility is available only in extremely small quantities and it is used in this country

in investigations carried out by the United Birmingham Hospitals in association with the Medical Research Council.”

Population Age Groups

MR. A. BLENKINSOP asked the Minister of Health what was the estimated population of England and Wales of the age groups 16 to 35, 36 to 50, and 51 to 60; and what proportion they form of the total population. When replying on August 2, MR. ROBINSON gave the Registrar-General's estimates for mid-1964:

ENGLAND AND WALES		PERCENTAGE OF TOTAL (ALL AGES)
AGE GROUPS	PERSONS	
16 to 35 inclusive ...	12,683,800	26.7
36 to 50 inclusive ...	9,409,200	19.8
51 to 60 inclusive ...	6,139,300	12.9
Total (all ages) ...	47,511,000	100.0

Mental Health Services Expenditure

CAPTAIN L. P. S. ORR asked the Minister of Health what proportion of total National Health expenditure was spent on the mental health services. MR. ROBINSON, in a written reply on August 2, stated that so far as the cost of those services could be separately identified, about 12 per cent. of the total expenditure on health and welfare in England and Wales could be attributed to the mental health services.

POST OFFICE GIRO

White Paper on proposed system

THE Government published a White Paper on August 17 on “A Post Office Giro” (H.M. Stationery Office, price ninepence). It declares that a Post Office giro can help to rationalise the nation's money transmission facilities. The paper states “For many people with simple needs and no bank accounts, it would provide a cheap and efficient service, run by a familiar institution, for the settlement of bills, the sending of money and, if desired, the receipt of their pay. For the business community, the speedy clearance which a giro can offer, the detailed and frequent accounting data which it provides and the cheapness of its charges would be attractive.”

In outline the Government's plan is as follows. Any person over the age of sixteen years and any company, institution, etc., will be able to open a giro account on an initial deposit of not less than £5. The three basic facilities to be provided will be:—*Transfers*: from one account to another by a written instruction to the giro office transmitted through the post. *Deposits*: into an account, either by an account holder to self or by non-account holders. Those transactions will be mainly handled at post office counters, the subsequent accounting being carried out at the giro office. *Payments*: in cash at post office counters either by account holders to themselves (withdrawals) or to third parties by means of postal “cheques” sent via the giro office. Under certain conditions, including special registration, account holders will be able to withdraw up to £20 on demand at one chosen post office.

Anyone will be able to make a deposit or receive a payment, whether he is an account holder or not; but only account holders will be able to make transfers and payments. No interest will be paid on giro balances and there will be no overdraft facilities. The transfer and deposit forms to be used will contain sufficient space for the insertion of a written message explaining to the recipient the purpose for which the money is being sent. A credit slip will be sent to each account holder after each deposit or transfer to his account and a statement will be sent to each holder whenever there is any change in the balance held. The clearing time for each transaction will be twenty-four hours.

It is anticipated that the best use of the giro will be to facilitate the transferring of credit between account holders. Transfers will be relatively cheap to handle and they will cause no work at post office counters. To encourage their use, it is planned that transfer transactions should be free, as they are in all but one of the European giros. The full scale of charges is expected to be:—*Transfers*: Free. *Deposits*: By account holder to own account—Free. Otherwise—9d. *Payments*: On demand to account holder (up to £20)—9d. Other payments (up to £50)—9d. Other payments (over £50)—2s. *Postage to giro*: Free. *Stationery*: At cost. The question of what stamp duties would be payable has still to be settled.

Advertiser's Announcement

SANGERS LIMITED

The following is an extract from the Chairman's Statement circulated with the Accounts for the year ended 28th February, 1965:—

Trading Results: The accounts now presented to you show a trading profit of £92,348 compared with a loss of £44,573 for the previous year. These figures have been arrived at after charging some £35,000 of expense directly applicable to reorganisation as compared with £50,000 in the previous year.

Part of the improvement we had hoped for has come about in this first year of change, and your directors therefore feel that the eighteen months arrears of dividend on the Preference Stock should now be paid together with the half-year's dividend due on the 31st July.

The Year under Review: All branches of the business have been examined and the many alterations required made as speedily as possible. Much still needs to be done, but we are now well on the way to having a properly co-ordinated group.

Business is becoming increasingly competitive, and it is only by rendering first-class service to our customers that we can be successful. This depends on various factors, the chief of which are modern warehouses in the proper locations and adequate and satisfactory labour. In some cases we have this. In others, we have not, and it is to these branches that particular attention is naturally being devoted.

I am pleased to report that group sales were four per cent. up on the previous year. In the current year to date, the increase is also satisfactory. Total sales volume, however, is not the main problem, but rather the obtaining of an adequate turnover from each of our customers to enable us to make a profit from each account served, for delivery is a large part of our operating expense.

Finance and Annual Accounts: Last year I stated that we would make every effort to reach liquidity, for the lack of finance was precluding us from carrying out essential modernisation. Nevertheless, in the year under review a large degree of modernisation has been carried out, including the completion of basically a new fleet of delivery vehicles which were in an uneconomic state of repair.

I am, therefore, pleased to report that the result of the year's trading has enabled the consolidated bank overdraft to be reduced from £794,227 to £322,010 during this year.

As you were informed last year, on the 1st March, 1964, we ceased trading in most of our subsidiary companies and merged them into branches of Sangers Limited, with one method of operation and a considerable saving in accounting work, yet with better control. To a large extent, this has enabled us to announce our results to you two months earlier than last year.

Customers: We thank you all for your support. We will do our best to help you to achieve greater success, and we hope that you will order more from us.

Conclusion: On the whole, things have taken a turn for the better, but the future is hard to foretell.

Expenses of industry are rising all the time which, to an extent, are being counteracted by rising prices. In our case, gross profit is fixed by manufacturers and, therefore, our increased expenses can only be absorbed by greater efficiency and higher volume of profitable sales. There is a limit to what can be done. In the light of this I can make no promise for the future.

I do not think we will go back but how far we can go forward is to some extent outside of our control. In the meantime, we will all do our best.

COMPANY NEWS

Previous year's figures in parentheses

PIFCO HOLDINGS, LTD. — Dividend is maintained at 35 per cent. Profits at £293,000, before tax, are 3½ per cent. up on the previous year; net profits are £181,000 (£133,000).

VITAMINS, LTD. — Profit for year ended March 27 was £262,494 (£319,130) before estimated tax of £136,230 (£143,734). Dividend proposed is 12½ per cent. (same).

UNILEVER, LTD. and UNILEVER, N.V. — Combined second quarter sales to third parties increased by £34 millions to £452 millions but profits, before tax fell to £32.4 millions from £33.2 millions.

SOUTH AFRICAN DRUGGISTS, LTD. — The chairman (Mr. H. C. Kuiper) issued a statement in Johannesburg on August 16 denying recent rumours that part of the shareholding of large holders was being sold. He said that the company was not being taken over "by Boots or any other concern."

IDRIS, LTD. — A group loss of £100,000 is reported for half-year ended April 30. No interim dividend is being recommended and final will depend on trading during August and September, the directors state. (In 1964 shareholders received a total of 15 per cent.). A fire at their new factory in Thornliebank, Scotland, about a week before it was due to open caused damage estimated at about £150,000. It will be another six months before the factory will be ready for operation. In the meantime production continues at the other factories.

BUSINESS CHANGES

MR. J. REGAN, M.P.S.I., has opened a pharmacy at Castlelyons, co. Cork, Eire.

AGFA, LTD. and GEVAERT, LTD., have jointly opened a dépôt at 43 North Street, Cheetham, Manchester, 8 (telephone: Blackfriars 9854).

ARMSTRONG CORK CO., LTD., are removing to Kingsbury, London, N.W.9 (telephone: Wordsworth 0151), on September 13.

H. FRISCHMANN is removing to Terminus House, 16 North End Road, London, N.W.11 (telephone: Speedwell 1354), on August 26 (from 4 Lloyds Avenue, E.C.3).

BROCADES (GREAT BRITAIN), LTD., have removed to Trend House, Pyrford Road, West Byfleet, Weybridge, Surrey (telephone: Byfleet 45536).

JAMES LEIGH (CHEMISTS), LTD., 45 East Street, Barking, Essex, are closing on August 23 for reconstruction. The business will reopen on approximately October 21 at adjoining premises, 43 East Street.

OVERSEAS VISITS

MR. F. W. GRIFFIN (managing director, B.D.H. Group, Ltd.), sailed from Southampton on August 12 on a two-month tour which will include a number of Commonwealth countries in which the group has subsidiary com-

panies. The tour will take him to Toronto, Auckland and Sydney.

MAKERS' ACTIVITIES

Garden Parties. — Thomas Kerfoot & Co., Ltd., Vale of Bardsley, Ashton-under-Lyne, Lancs., combined ancient and modern aspects of pharmacy at two garden parties held on July 20 and 21 to which a number of their customers were invited. Up-to-date methods of tablet production and analytical control were illustrated by members of the staff and there were exhibits of new and old in materia medica specimens and drug containers from many centuries. The whole series of British Pharmacopœias and the earlier London and Edinburgh Pharmacopœias were displayed. Mr. R. J. Hayhurst, Nelson, contributed rare volumes of medical and pharmaceutical interest, beautifully made medicine cabinets and drug jars. Specimens from the collections of Mr. J. Skinner, Chatteris, and Mr. A. L. Nield, Denton, were admired by the visitors. On the lawns exhibitions of archery and games of croquet had been arranged.

PERSONALITIES

MR. H. BLACKLEY, M.P.S., who has been managing director of Calverts, Ltd., High Street, Grantham, for the past three years is shortly emigrating to Australia.

MR. J. W. HUGGONSON, M.P.S., has just completed twenty-five years as manager of Frith Bros., Ltd., 114 Heath Road, Twickenham, Middlesex. The company have presented Mr. Huggonson with two antique chests of drawers while the managing director (Mr. J. Frith) presented him with a gold watch.

DR. T. BINNS, who is director of clinical research at CIBA Laboratories, Ltd., Horsham, has been elected a Fellow of the Royal College of Physicians (Edinburgh). It is the first occasion a full-time medical adviser in the pharmaceutical industry has achieved that distinction.

MISS G. M. GRANT, M.P.S., 21 Heath Grove, Burming, Maidstone, Kent, chief pharmacist, St. Bartholomews Hospital, Rochester, has retired after thirty-three years in pharmacy. On her retirement she was presented with an inscribed Bible, a projector and screen and money.

MR. A. A. PUDDICK has, for health reasons, resigned his position as sales director of the industrial solvents division of the Distillers Co., Ltd. Mr. Puddick joined the company in 1955 and has since held positions as export sales, marketing and general sales manager of the Distillers Chemicals Group. In 1962 he was appointed general sales manager of the industrial solvents division and in 1964 sales director.

MR. KENNETH H. GASELTINE, F.I.L.P., F.R.P.S., who has been with Ilford, Ltd., for forty-two years, retired at the end of July. His father, Herbert Gaseltine, was manager of the old Imperial Dry Plate Co., Ltd., Cricklewood, and it was in a house adjacent to the works that Kenneth was born. Kenneth's early work consisted of amateur finishing in the

summer; and producing photo advertising specimens in the winter. His father, who was also a chemical engineer, invented one of the first roll film processing systems, capable of handling 1,000 spools a day—quite something for the period. The amalgamation of other firms with Ilford, Ltd., came to a head in the late 1920's when it was decided to establish a unit at the then newly-built Oaklands Road, Cricklewood, depôt. It was Mr. Gaseltine's job to scour the companies then being absorbed and "pull-out" equipment and staff for the department. A major part of Mr. Gaseltine's work afterwards was in the creation, planning, making and staging of major photographic exhibitions. He instituted, and ran for many years, courses of technical instruction for the company's sales forces; special evenings for the country's amateur photographers, which alone ran for twenty-five years; and a special colour and D. and P. school, all at Cricklewood. He served on the council of the Royal Photographic Society; was elected a fellow, and finally became vice-president. He was also awarded a Fellowship of the Institute of Incorporated Photographers.

MARRIAGES

SMITH — THOMAS. — Recently, Donovan Smith to Jean Thomas, M.P.S., 8 Royd Crescent, Halifax, Yorks.

DEATHS

DE BOOS.—On July 24, Mr. John James De Boos, M.P.S., 4 Highfield, Callington Road, Tavistock, Devon. Mr. De Boos qualified in 1926.

FRANCIS.—Recently, Mr. Gwilym Francis, 4 Brampton, Temple Drive, Llandrindod Wells, Radnorshire. Mr. Francis was representative for Osmond & Sons, Ltd., Grimsby, for twenty-four years.

HALL.—In Scarborough Hospital, on August 9, Mr. Francis Joseph Hall, M.P.S., recently of 17 St. John's Terrace, Bellvue Road, Leeds, 3. *Mr. A. G. Reed, M.P.S.*, writes: It was with a sense of dismay and shock that Leeds Branch of the Pharmaceutical Society learnt that Frank Hall had passed away. Although he had retired from business in 1961, it was only five months since he had left us. Never one to seek the limelight, indeed he had persistently refused to take the chair, he had served on the local committee continuously from 1943. He had also served on the local National Pharmaceutical Union committee, was treasurer of the local branch of the Catholic Pharmacists Guild, and was a member of the Leeds Pharmaceutical Committee, 1954-61. If any secretary needed an auditor, a scrutineer, a doorman, a ticket collector, somebody to be there early or somebody to stay late, the same unassuming, kindly Frank Hall would offer his services. Leeds Branch and its secretary in particular are going to miss him a lot.

"His life was gentle and the elements
So mixed in him, that Nature might
stand up

And say to all the world "This was
a man."

HAWORTH.—At the Caernarvonshire and Anglesey Hospital, Bangor, on August 11, Mr. Frank Gerald Haworth, former chairman and joint managing director of Edward Taylor, Ltd., aged eighty-two. Mr. Haworth was well known to members in the medical and surgical plaster and dressings trade for about sixty years. He was grandson of the founder of the business which was established in Salford in 1847, and was only the second chairman of the company up to his retirement in 1960.

JONES.—On August 7, Mr. Hywel Wynne Jones, M.P.S., 18 Ena Avenue, Neath, Glamorgan. Mr. Jones qualified in 1922.

LEHRER.—On July 20, Mr. Denis Norman Lehrer, M.P.S., 105B New Road, Ware, Herts. Mr. Lehrer qualified in 1961.

McKUNE. — At Victoria Hospital, Kirkcaldy, Fife, on August 13, Mr. William Goulding McKune, M.P.S., 185 Commercial Street, Kirkcaldy. Mr. McKune qualified in 1926.

POND.—On July 23, Mr. Arthur Charles Pond, M.P.S., 16 Lower Hill Road, Epsom, Surrey. Mr. Pond qualified in 1936.

TANNER.—On July 11, Mr. Aubrey Charles Henry Tanner, M.P.S., 1 East Street, Rye, Sussex. Mr. Tanner qualified in 1939.

WILLIAMS.—On July 17, Mr. William Henry Williams, M.P.S., 62 Broad Street, Blaenavon, Mon. Mr. Williams qualified in 1914.

WORLD TRADE

Dutch Pharmaceutical Exports. — Holland's exports of pharmaceutical products in 1964 totalled fl.224 millions (fl.199 millions in 1963).

Chilean Storm Disaster.—Practically the whole of Chile has been declared a disaster area by the Government following a week of gales, floods and snowstorms. All but three of Chile's twenty-five provinces come under the declaration. A preliminary report published by the Ministry of the Interior says the storms have inflicted heavy damage to property. The railway lines are particularly affected in the north, where large landslides have blocked the lines.

Australia to Produce Hyoscine? — Production of hyoscine may become a new industry in the Northern Territory of Australia according to the administrator (Mr. R. Dean). The duboisia plant from which the hyoscine is obtained grows wild in the Territory. Current price of the dried duboisia leaves is about £(A)250 per ton. Mr. Dean said the Forestry and Timber Bureau was trying to isolate and propagate the highest yielding strains, which would then be available for irrigated cultivation.

Singapore Trade After Secession. — Commenting on the decision of Singapore to secede from the Federation of Malaysia, the Prime Minister of Singapore (Mr. Lee Kuan Yew) said that the city wanted to be friends with Indonesia but that Indonesia must first recognise Singapore's independence and sovereignty. On trade, he said Singapore ought to trade with every country in

the world which was willing to recognise the island as an independent state. He said "like Britain, we want to trade with the world including China, the Soviet Union and even Indonesia if they want to trade with us."

OVERSEAS NEWS

SOVIET UNION

Pharmaceutical Industry Criticised

A LARGE scale reorganisation of the pharmaceutical industry in the Soviet Union is foreshadowed following serious complaints of a shortage of drugs in Soviet hospitals. The newspaper *Pravda* said in an editorial on August 13 that complaints were coming in from all over the country, from doctors and patients that they could not get the drugs they needed. Many of the drug industry's faults were due to its lack of control, the newspaper said. In some regional economic councils drug factories were considered as part of the chemical industry, in others as part of the food industry. *Pravda* backed up recent criticisms of the industry in the *Medical Gazette* but concentrated its fire on building delays rather than on the factories themselves and added that although many factories were under construction, building work was going very slowly. The plan for the first half of 1965 had only been fulfilled by 72 per cent.

LEGAL REPORTS

Employee Stole "Purple Hearts"

THREE men alleged to be members of a drug ring peddling "purple hearts" were, on August 13, committed to Southend quarter sessions for sentence. They were William Edwin Town, Manchester Drive, Leigh-on-Sea, an employee of Longthorne's, Ltd., chemists and opticians, of London Road, Leigh, Daniel Larkin, Palmeira Avenue, Westcliffe, and John Selfe, Royal Terrace, Southend. Town, the court was told, had 455 'purple heart' tablets in his possession when he was arrested. Daniel had seven and a half tablets, and four empty boxes were found at his home. Selfe had more than 187 at his home and he told the police that there might be more lying about loose. Town pleaded guilty to stealing the 455 tablets from his employers and having them in his possession. He asked for a theft of a total of 4,800 tablets to be taken into consideration. His solicitor alleged that Town had been preyed upon, threatened and coerced by Larkin into supplying the tablets, and that Larkin had threatened to tell his employers that he had a previous conviction for another offence if he did not do as he was told. The solicitor alleged also that both Larkin and Selfe had made suggestions of physical violence against him. The whole thing for Town, said the solicitor, had started from "doing a good turn." Larkin had told him that Mrs. Larkin was ill and needed the "purple hearts." Town had agreed to help him out. Then, it was alleged, Selfe appeared on the scene and told Town "What you do for Larkin, you will do for me." "Nobody," the solicitor told the court, "is more pleased than Town that the ring has been broken up."

NEW PRODUCTS AND PACKS

OVER-THE-COUNTER MEDICALS

Available to All Chemists. — The wholesale and international divisions of Boots Pure Drug Co., Ltd., Station Street, Nottingham, having completed pre-marketing trials of a new product, Dulsils lozenges (against coughs and sore throats) the lozenges are being made available for over-the-counter sale by all chemists. The product is a "double-action" lozenge containing effective ingredients to relieve sore throats and stop coughs. It is claimed the first lozenge to combine two antiseptics, Dybenal and amyl-meta-cresol with a cough suppressant, dextromethorphan. Cough and sore throat are known often to occur together, but cough may develop from a sore throat owing to local spread of infection, whilst excessive coughing in turn aggravates a sore throat. Dulsils is designed to break that vicious circle by killing sore-throat germs and suppressing the impulse to cough. Each lozenge is packed in an air-tight, individually sealed compartment. The display outer, carton and hessian strip were awarded a silver medal at the 1965 Starpacks competition. The product is sent out packed twelve lozenges to a carton, 1 doz. cartons to a display outer. Dulsils is a P.I(S7) poison and is not recommended for children under the age of ten. Distribution is through Chemist Brokers, Crown House, Morden, Surrey.



The packet for Trufood's "Chemist Only" junior cereal illustrated with a drawing of a pharmacy. When empty it can be made into a simple toy by cutting round the chimney and door and opening out the bottom flap to represent the pavement.

FOODS

Apt.—A drawing of a pharmacy illustrates the pack of a new junior cereal being introduced by Trufood, Ltd., 113 Newington Causeway, London, S.E.1, on August 23. The illustration is particularly apt as the product is issued only to chemists. Junior cereal has a protein content of 22.2 per cent. of which milk protein contributes a high proportion. The pre-cooked food is made from oat, wheat and maize flours and contains vitamins D, B₁, B₂ and niacin, calcium and iron. 1-oz. of the powder provides 110 calories. Adding milk gives a thick feed which has a creamy flavour or the mixture can be boiled to make porridge. Each pack contains 8-oz. and is printed in four colours. A show card and display leaflets are available together with sampling cards that can be used by the chemist to obtain sample packets of the food for his customers. The packet is posted direct to the mother by the company with a letter stating it is sent at the request of the chemist who is named.

COSMETICS AND TOILETRIES

Additional Size.—James, Samuel & Co., Ltd., 56 Fairfield Street, London, S.W.18, are now offering Glycinnello hand cream in a large tube as well as the original size pack.

Deodorants.—International Laboratories, Ltd., 205 Hook Road, Chessington, Surrey, have launched two new deodorants under the Linc-o-Lin trade mark. They are Linc-o-Lin anti-perспирант and Linc-o-Lin skin perfume deodorant. Both are packed in gold-capped spray bottles.

In Light-Weight Polythene Bottle.—A new addition to the range issued by Lenthieric, Ltd., 17 Old Bond Street, London, W.1, is body lotion — "a smooth, creamy lotion to be used liberally after a bath. Apart from leaving the skin fresh and soft, its emollient moisturiser is said to help keep at bay the lining and hardening of skin at danger spot—knees, feet and elbows. It is also extremely soothing after an over-dose of sun. Its delicate fragrance was formulated with the long-suffering perfume-allergy girl in mind and gives 'the fragrant touch of all-over beauty'."



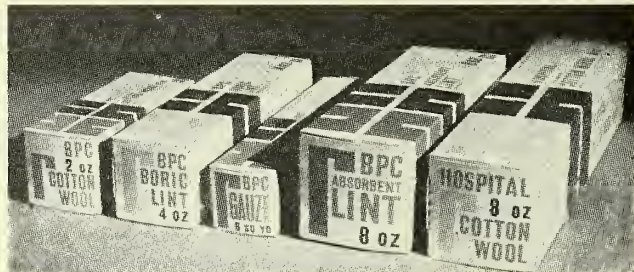
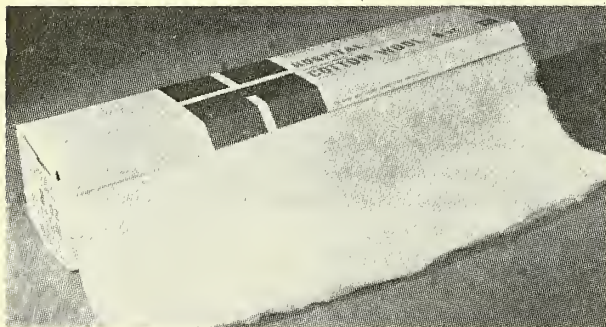
GOLD AND WHITE: New outer cartons adopted by Morny, Ltd., 201 Regent Street, London, W.1, for their soaps. The white cartons feature ribbon medallions, with product fragrance names in black and company's name in gold.

It is packed in a 2-oz. light-weight polythene bottle. Lenthieric have also added to their Onyx range of products an after-shave balm "tailor-made for the man with the tough but sensitive skin." It is claimed to be healing, soothing, an anti-irritant and very mildly astringent. The balm is said to be the answer for those who find after-shave lotions "too fierce."

SUNDRIES

Brush and Sponge. — Laughton & Sons, Ltd., Warstock Road, Birmingham, 14, have prepared an attractive unit containing a bath brush and sponge known as the Riviera Sauna bath and shower brush set offered in a transparent pack. A display stand is offered free with each 2-doz.

Special-purpose Whitener. — Dylan curtain white, claimed the world's first whitener for Terylene net curtains, is being marketed by Mayborn Products, Ltd., Dylan Works, Sydenham Road, London, S.E.26. So far the material has resisted the fluorescent whiteners that were successful on nylon, wood, cotton and other fabrics with greying or yellowing tendencies. Dylan curtain white is described as being so precisely balanced and co-ordinated as to be wonderfully effective on white Terylene net under domestic washing conditions." The container is a blue polythene bottle topped with white screw cap.



CARTONS DESIGNED TO "NEW CONCEPT": Smith & Nephew, Ltd., Bessmer Road, Welwyn Garden City, Herts, are presenting their surgical dressings in the new range of cartons illustrated. They are claimed to offer

"a completely new concept in carton design." The dressings are now made in the company's new surgical-dressings mill. "Easy-to-open" cartons are used for the 2-oz., 4-oz., 8-oz., and 16-oz. cotton wool and 4-oz., 8-oz., 16-oz. lint (plain and boric) and 3-yd., 6-yd. and 12-yd. B.P.C./N.H.S. gauze. Flat packs of lint and gauze and small rolls of cotton wool are packed in traditional "open-end" cartons. The colour coding is in "fresh, up-to-the-minute" shades to make identification easy. All main wording is clearly and simply displayed on all sides of the pack and on the ends. The side openings make the contents easy to take out and put back.

TRADE NOTES

Renamed.—Wigmore Products, Ltd., 91 Acton Lane, London, N.W.10, have renamed Fresca their men's Cologne formerly called Fresco.

Change of Agents.—The agency for Weil perfumes in Britain is being undertaken by Biometica, Ltd., Barnet by-Pass, Boreham Wood, Herts. (telephone: 3145), as from September 1.

New Source.—Messrs. Fasset & Johnson, Ltd., point out that Quickies face cream pads are now manufactured and distributed from their Oxford Works, Worsley Bridge Road, London, S.E.26.

Concessionaires for Europe.—Benross Trading Co., Ltd., have been appointed exclusive concessionaires for Europe of Astromatic sunglasses by the Rayex Corporation, New York, U.S.A.

Griseofulvin.—Imperial Chemical Industries, Ltd., pharmaceuticals division, Alderley Park, Macclesfield, Cheshire, have discontinued Fulcin, their original coarse particle griseofulvin, in favour of the more economical fine particle material which is available as Fulcin forte. Fulcin forte tablets provide fine particle griseofulvin in accordance with the B.P. and B.N.F. specification and thus meet official requirements whenever "Tab. griseofulvin" is prescribed.

No Connection.—Numerous comments have been made in the Press about the direct selling of cosmetics by Studio Girl, Ltd., a company owned by Helene Curtis, Inc., Chicago, Illinois, U.S.A. The directors of the British Helene Curtis, Ltd., Bessemer Road, Welwyn Garden City, Herts, which is a member of the Smith & Nephew Group of Associated Companies, state that they have no connection with Studio Girl, Ltd., and that the British company sells its products only through normal retail and wholesale trade channels.

Guide to Perfume Ingredients.—Guerlain, Ltd., 42 Conduit Street, London, W.1, have issued descriptions of their perfumes naming the actual components. In *l'Heure Bleue* "the richness of heliotrope blends with the more piquant spearhead of jasmine and Bulgarian rose. *Sous le Vent* is a bouquet of tropical flowers, mellowed by a base of balsam. "No. 90" is a classic "oriental" perfume whose qualities are due to its base of amber, though the initial

scent has the fresh tang of bark and resin. The distinctive fragrance of *Vol de Nuit* is "evocative of a blend of exotic woods and the acrid smell of young leaves crushed in the hand." The cypress it contains introduces a note of piquancy. *Mitsouko* is original in combining moss and flower scents, with a discreet interplay of amber. In *Liu* "the dominant freshness of jasmine is sustained by heavier, more lasting essences." *Jicky* is based on bergamot and lavender. *Chant d'Aromes* "opens to full bloom like a bouquet of syringa and honeysuckle. *Ode* blends syringa, lilies and heliotrope, and soft green leaves.

Theatre "Tie-up."—Cussons Sons & Co., Ltd., Kersal Vale, Manchester, makers of "My Fair Lady" toilet products, are running a display competition among chemists to coincide with the current run of the show "My Fair Lady" at the Theatre Royal, Nottingham. Prizes for six winners and their guests include stalls seats for the performance on October 11, preceded by dinner at the County Hotel, Nottingham. In addition, each couple is to be introduced to the cast. Thirty runners-up will be awarded double tickets for the theatre. To qualify for the competition, entrants in five counties—Nottingham, Derby, Lincoln, Leicester and Rutland—must incorporate a show card tying up Cussons "My Fair Lady" with the show. Judging is to take place between September 13 and 25.

Christmas Showrooms

THE following have been notified:—
PHILLIPS SCOTT & TURNER CO., Queens Hotel, BIRMINGHAM, August 23-27; and at the Midland Hotel, MANCHESTER, August 23-27.
DU BARRY (LONDON AND NEW YORK), LTD., Midland Hotel, MANCHESTER, August 23-27; and Royal Turks Head Hotel, NEWCASTLE-ON-TYNE, August 23-27.
UCAL (BROOK PARKER), LTD., Adelphi Hotel, LIVERPOOL, August 23-27.
MORNY, LTD., Royal Turks Head Hotel, NEWCASTLE-ON-TYNE; and St. Enoch's Hotel, GLASGOW, August 23-27.
JEAN SORELLE, LTD., Queens Hotel, BIRMINGHAM, August 23-27; Adelphi Hotel, LIVERPOOL, August 23-27; and Royal Turks Head Hotel, NEWCASTLE-ON-TYNE, August 23-27.
J. GROSSMITH & SON, LTD., St. Enoch's Hotel, GLASGOW, August 23-27; Adelphi Hotel, LIVERPOOL, August 23-27; and Royal Turks Head Hotel, NEWCASTLE-ON-TYNE, August 23-27.
FIELDS OF BOND STREET and **HOUSE OF**



Carton of Energen starch-reduced rolls as it now appears after a recent modernisation of the design by the manufacturers, Energen Foods Co., Ltd., Birling Road, Ashford, Kent.

MANHATTAN, St. Enoch's Hotel, GLASGOW, August 23-27; Midland Hotel, BIRMINGHAM, August 23-27; and Midland Hotel, MANCHESTER, August 23-27.
JACKEL & CO., LTD., Grand Hotel, GLASGOW, August 23 to September 3; and Metropole Hotel, LEEDS, August 23-26.
SCOTT & BOWNE, LTD., Adelphi Hotel, LIVERPOOL, August 23-27; Royal Turks Head Hotel, NEWCASTLE-ON-TYNE, August 23-27; and St. Enoch's Hotel, GLASGOW, August 23-27.
H. BRONNLEY & CO., LTD., Royal Turks Head Hotel, NEWCASTLE-ON-TYNE, August 23-26.
SHULTON (GREAT BRITAIN), LTD., St. Enoch's Hotel, GLASGOW, August 23-27; and Adelphi Hotel, LIVERPOOL, August 23-27.
ROBERTS WINDSOR, LTD., St. Enoch's Hotel, GLASGOW, August 23-26; Adelphi Hotel, LIVERPOOL, August 23-26; Midland Hotel, MANCHESTER, August 23-26; and Midland Hotel, BIRMINGHAM, August 23-26.

Bonus Offers

TRUFOOD, LTD., 113 Newington Causeway, London, S.E.1. Junior cereal. 13 invoiced as 12. During September.

WEST-SILTEN PHARMACEUTICALS, LTD., 9 Palmeira Mansions, Church Road, Hove, 3, Sussex. Kest. Twelve invoiced as ten on 1 doz. or multiples of twelve of each pack size. Till October 30.

J. F. WHITE & CO., LTD., Benson Street, Leeds, 7. Kompo. 10 per cent. discount. Quantity terms: 10 per cent.

SEASONABLE PRODUCTS

FOR THE OUTER MAN (OR WOMAN) . . .



Left to right: Carnation foot powder of Cuxson, Gerrard & Co., Ltd., Oldbury, Birmingham, in 2½-oz. container; Johnson's foot powder (Johnson & Johnson (Great Britain), Ltd., Slough, Bucks); Pretty Feet ("makes hard rough skin disappear" (roll-ball applicator by Southalls (Sales), Ltd., Welwyn Garden City, Herts; Skin Deep roll-on deodorant by J. & E. Atkinson, Ltd., Welwyn Garden City, Herts; and Model Nail repair kit by Phillips Scott & Turner Co., Surbiton, Surrey.

discount on 6-doz., 15 per cent. discount on 12-doz. and 20 per cent. discount on 60-doz. August 15-September 18.

Bank Holiday Closing

NORMAL closing period of manufacturers at August Bank holiday weekend is from closing time on Friday, August 27, until Tuesday morning, August 31. The following companies have notified that their products will be available from John Bell & Croyden, 50 Wigmore Street, London, W.1: GEIGY (U.K.), LTD. (pharmaceuticals division), Roundthorn Industrial Estate, Wythenshawe, Manchester, 23. PHARMAX, LTD., Thames Road, Crayford, Dartford, Kent.

The following special arrangements should be noted:

GLAXO LABORATORIES, LTD. Skeleton staffs at Greenford and Dukinfield warehouses to deal with emergency orders, 9 a.m. to mid-day, Saturday, August 28, Bargeddie warehouse operating as usual.

Annual Holiday. — British Surgical Houses, Ltd., 23 Tulketh Street, Southport, Lancs., will be closed for the company's annual holiday August 21-31.

Information for Manufacturers

Metering Device. — English Glass, Co., Ltd., Scudamore Road, N.P.E., Leicester, are the sole U.K. distributors of an all-plastic dispensing pump originally designed by Co-Ro of Denmark for metering orange juice, etc. The pump, which is made from low pressure polyethylene, is resistant to fruit juices, essences, many medical products, etc., and incorporates glass ball valves. The pump is fitted with a standard cap and dispenses a measured amount of liquid with specific gravities up to 1.20 and viscosities up to about 1.60 centipoise at each stroke. It is claimed to be one of the cheapest dispensers on the market.



Industrial Training Films.—139 films that assist with industrial training and technical education are listed in a new comprehensive catalogue "Industrial Training Films," available free from Rank Film Library, 1 Aintree Road, Perivale, Middlesex.

Bile Acid Derivatives.—T. J. Sas & Son, Ltd., Victoria House, Vernon Place, London, W.C.1, announce that they can now offer a selection of common bile acid derivatives. The range of the derivatives are described in a leaflet available from the company on request.

Overseas Trade Directories. — The 1965 edition of "Trade directory of the Republic of the Sudan," which includes a classified trade index, is available from the publishers: DIPLOMATIC PRESS AND PUBLISHING CO., 13 Cotswold Gardens, London, N.W.2, price £1.

Binder and Disintegrant. — A new pregelatinised food grade starch that acts as either a binder or disintegrant in the production of tablets has been developed. The starch, designated National 1215, and available from Laing-National, Ltd., 24 Mosley Street, Manchester, 2, is a finely ground white powder that swells in the presence of

water to form gelatinous fragments with strong binding properties. Its primary advantages are:—Compatibility with a wide range of ingredients; exceptional ease of compounding; acceptance as a GRAS ingredient for use in foods; excellent stability under prolonged dry storage; and compatibility with wide range of colours.

Correspondence

Letters when received must bear the name and address of the sender, not necessarily for publication. The Editor does not hold himself responsible for the views expressed.

Acknowledgment

SIR,—On behalf of the hurriedly convened special committee of the Aberdeen and North-eastern Scottish Branch of the Pharmaceutical Society I would like to express my thanks to all the members in the area who subscribed generously and enabled us to send a number of members (retail, hospital, medical representatives and pharmacy college lecturer) to vote for the resolution at the Albert Hall on July 25. Our thanks are due to those members, who sacrificed twenty-four hours out of thirty-six to be present on that important occasion and also to Mr. Geoffrey Shepherd who acted as treasurer and made all the necessary travel arrangements and even obtained sleepers each way in the height of the holiday season.

WILLIAM C. D. BAIN,
Aberdeen

July 25

SIR,—Having been away, I have not had the privilege of reading Mr. Jardine's sarcastic diatribe before, and have no intention of competing in this field. I remember the old adage about sarcasm especially when used as a cloud to cover vital issues and lack of knowledge. The multiples have made their contribution to pharmacy, but when they attempt to dominate everybody else, by either pressure group methods or High Court action, it is time for even apathetic pharmacists to sit up and take notice, which was done at the Albert Hall. Over 5,000 pharmacists travelled there at their own expense and trouble to express their views and vote. They did not have their expenses and fares paid. No, we did not retreat behind ivory towers, but came and fought for professional freedom, to vote according to one's professional conscience. Many multiple pharmacists, despite reported pressure, had the courage to vote for the resolution, and many more not there thought the same. One day when Messrs. Boots have a non-pharmacist store manager in charge of their larger units, Mr. Jardine may ruminate on his so called freedom then.

MERVYN MADGE,
Plymouth

Labelling of Plasters

SIR,—Recent reports from the Testing House on B.P.C. plasters have drawn attention to the lack of certain labelling requirements, namely colour, "Store in a cool place," and/or "Apply to clean dry skin." This has led to adverse comment from Executive Committees and similar bodies. The Con-

ference of Medical and Surgical Adhesive Plaster Manufacturers would be glad if you would publish the following:—

British Pharmaceutical Codex: In the preamble to the plaster monographs in the B.P.C., certain new labelling instructions have been included, which are referred to in individual monographs. When such changes occur, manufacturers are inevitably left with various packaging materials which do not carry the new wording, and it follows that until such materials are used up, packages will not necessarily conform in every detail. There has, however, been little change in specifications of plasters, and plasters manufactured by members of this Conference, conform with the appropriate B.P.C. specifications as they have always done. Manufacturers have given appropriate instructions to printers as to the new requirements, but in the case of metal spools and boxes, the change is likely to be spread over a somewhat prolonged period, due to the stocks of printed plate, etc., already in existence.

I have written to the Drug Tariff Section of the Ministry of Health, advising them of the situation.

A. F. BEAVEN, *Secretary*

MR. R. V. OWEN, M.P.S., F.R.H.S., 24 Wellington Road, Birmingham, 15, offers samples of rare eucalyptus seeds free for early sowing in greenhouses to any pharmacist or pharmaceutical student. A stamped addressed envelope should be sent.

PRESCRIPTION POSER

"I KNOW this doctor's writing very well, but this particular script completely foxed me," wrote the Derbyshire pharmacist who sent it. Small wonder!

100. R. me. l.
0.25g
180

Poser Solution

THE four items of last week's "poser" were:—

Ostelin liquid Glaxo m iii
Sodium Luminal gr. $\frac{1}{4}$
Syrup calci lactophos. 3i
Aqua chlorof ad 3fs
M 3xvi
Sig. $\frac{1}{2}$ oz. t.d.s.



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A Disturbing Trend

SERIOUS changes in the pattern of narcotic addiction in the United Kingdom that must give rise to feelings of apprehension among all who are concerned in the distribution of narcotics are reflected in the report to the United Nations by the United Kingdom Government (see p. 167). The total number of known addicts in 1964 was 753 compared with 635 in the previous year. Whilst the increase in the total figures is enough to cause concern, there is one statement that underlines the seriousness of the present situation. There has been, the Home Office states, "a marked increase in the number of persons addicted to diacetylmorphine, especially in the younger age groups . . . an interdepartmental committee has been set up to consider the position and to make recommendations." The report does not expand on that situation but figures supplied to the United Nations during the past five years emphasise the presence of a growing problem.

For the first time in 1964, cases of addiction of non-therapeutic origin were responsible for returns greater than those resulting from therapeutic treatment. Another section of the report also shows that there is a marked increase in the number of addicts under the age of thirty-four and especially in that group under twenty.

So far as we are aware, there is no organised illicit traffic in narcotics in the United Kingdom and we have therefore to look elsewhere for the source of the "teenagers' heroin." Recently a consultant psychiatrist in a London hospital (see *Lancet*, April 10, p. 808) pointed out that in the past most addicts in the United Kingdom became accidentally addicted during the course of treatment or because their profession (medical or nursing) had easier access to drugs of addiction than the rest of the population. He stated that practically all became addicted independently, and few became addicted through association with other addicts.

Recently during a follow-up of thirty-three opiate addicts, he ascertained that there was a small epidemic of heroin and cocaine addiction with "case-to-case spread." He also pointed out that there was evidence that the increase in addiction had been paralleled by an increase in the number of addicts for whom drugs had been prescribed in general practice. It had been suggested that there was a "causal connection with over-prescribing" and that the practice of prescribing drugs for addicts outside hospital should be reconsidered.

The current situation appears to have developed in a social climate in which drug-taking is acceptable. Many teenagers—and adults—do not treat ordinary medicines

with the respect that they deserve. It is a problem that should be very much in the mind of the Minister of Health whilst he is considering the new legislation on medicines. However, the present situation, highlighted by the Home Office report, appears to us to be potentially dangerous in that the necessary curbing of over-prescribing might conceivably result in the development of an illicit market in narcotics. Nevertheless, heroin addiction is an insidious evil that must not be allowed to progress. The problem must therefore be tackled both by the Ministry of Health and the Home Office, the first to ensure that prescribing is only for licit demands and the Home Office to provide adequate enforcement to deal with the social evil. Meanwhile, the pharmacist can only continue to exercise his professional judgment in these matters, ensuring the security of his stocks and being watchful for the forged prescription.

Whooping Cough

THAT some whooping cough vaccines in current use might not be fully effective was referred to by the Parliamentary Secretary, Ministry of Health (Mr. Charles Loughlin), recently (see *C. & D.*, August 14, p. 152). Such a situation is a matter for considerable public concern, seeing that whooping cough is a most dangerous infection to infants below the age of one year.

From 1950 there was a steady decline in whooping cough notifications, reaching a record low level in 1962. Since then notifications have increased, in some cases the children being ones who had received a full course of immunisation.

The case with whooping cough vaccine parallels that which so often occurred in other infections—the organism has changed to, or been replaced by, one with different antigenic properties. Strains of *Bordetella pertussis* contain a variety of different antigens, which are divided into a common heat-labile agglutinin (antigen 1) and type-specific antigens, 2, 3 and 4. In 1953, the serotypes 1, 2 and 1, 2, 3, predominated with serotypes 1, 3, a rare occurrence. The picture is now different.

Dr. N. W. Preston of the University of Manchester obtained strains of *Bord pertussis* from twenty-four different centres throughout the country. His report on them (*Brit. med. J.*, 1965, *ii*, 11) showed that 132 of 155 strains contained serotypes 1, 3, while twenty-one contained serotypes 1, 2, 3 and only two contained serotypes 1, 2. That in itself would not matter if the antigenic content of vaccines included all serotypes. In 1963 (*Brit. med. J.*, *ii*, 724), Dr. Preston examined the vaccines of one American, one French and four British manufacturers and found that, out of the nine vaccines studied, only two contained serotype 3, and were produced by one of the British manufacturers. In his more recent paper he gave details of a further eleven batches from three British manufacturers, and found that only one vaccine contained serotype 3.

Although the Minister of Health has asked the Medical Research Council to co-operate in ensuring that all vaccines are fully effective, we understand that manufacturers have already taken the necessary steps to see that serotype 3 is used in the production of vaccine.

Nevertheless, it would appear essential that some consideration should be given to the problem of material that is extant and—to use the Parliamentary Secretary's words—"not fully effective."

SUNLIGHT AND SUNSCREENS

Protecting the Skin from Solar Radiation

JOHN B. STANFORD, M.PHARM., M.P.S.

PROTECTION against the harmful effects of the sun's rays was a matter of concern even in ancient times. The Bible refers to the dangers of being smitten by the sun's rays, the possible consequences of which were said to be headache and even sudden death. The Greeks and the Romans believed that the heat of the sun produced a condition called "phrenitis," a febrile delirium caused by inflammation of the brain and its membranes. Both recommended protective clothing when exposed to the intense summer sun¹. The problem is still with us and future astronauts will, without doubt, be exposed to solar energy of sufficient intensity to burn the retina and, probably, to cause harm to the external parts of the eye. Prolonged exposure to sunlight affects the sensory mechanisms of the eye by delaying and reducing the process of dark adaptation and altering the photopic retinal sensitivity. The spectral range responsible for these adverse effects lies within the 250-320 m μ wavelength range. Ultraviolet "light" within this range, whether from natural or artificial sources, can produce keratoconjunctivitis.¹ Xeroderma pigmentosum, a rare dystrophic dermatosis affecting exposed parts of the body, is known to undergo malignant change sooner or later. However, the carcinogenic effects of sunlight are not restricted to persons suffering from that condition. Lesions occur predominantly on persons of the white race, usually on the face. The higher incidence of "solar keratoses" and skin cancer in equatorial latitudes supports the hypothesis that sunlight is the causative factor.

An interesting comparison has been drawn between the traditional mediæval werewolf and the congenital porphyric, so much so that the conclusion reached suggests that the two are one and the same. Each has the characteristics of being light sensitive and having a claw-like hand due to contraction of the tendons of the hand. The teeth, which are prominent due to retraction of the upper lip, are impregnated with porphyrins, giving them a red colour. This redness is exaggerated at sunset, hence the legendary stories of werewolves with blood-stained teeth, supposedly from a recent "kill."² Sunburn is another distressing and much commoner, though less serious, effect of undue exposure to the sun. Evidence suggests that the sunburn process is due to the release of dilator substance in the stratum corneum as well as the malpighian layer of the epidermis.

Drug Sensitivity

Photosensitivity can also be one of the manifestations of drug sensitivity, and has been reported as arising from therapy with tetracyclines, sulphonamides, thiazide diuretics, sulphonylurea hypoglycaemic drugs and chlorpromazine and other phenothiazine derivatives. The courses of both discoid and disseminated lupus erythematosus are adversely affected by sunlight. A characteristic symptom of pellagra is photosensitivity.^{1,3} Human skin reacts to sunlight by giving rise to erythema. If the amount of radiation is large, oedema, bullous eruptions and desquamation may also occur. These effects normally follow exposure to radiation in the 290-310 m μ wavelength range. This range is commonly referred to as the "sunburn spectrum." The darkening of the skin (tanning) takes place in two separate stages—immediate tanning and post-inflammatory pigmentation. The former is caused by ultraviolet radiation of longer wavelengths (about 340 m μ) than that producing physiological sunburn. In two or three days a post-inflammatory pigmentation caused by radiation in the sunburn wavelength range usually follows. Many people are, however, abnormally sensitive to ultraviolet radiation of the longer wave-

lengths,^{1,5} although certain cases of porphyria and of solar urticaria may sometimes also be influenced by the short end of the visible spectrum. Radiation in the sunburn spectrum which causes erythema and sunburn plays relatively little part in true photosensitivity reactions. Photosensitivity that may arise during sulphonamide therapy is believed to be caused by ultraviolet radiation of long wavelengths. Topical coal tar and systemic chlorpromazine can give rise to photosensitivity to the short visible and long ultraviolet ranges.^{3,5}

Light Screens

Sunscreens should either scatter the sunlight effectively or they should absorb the erythema part of the sun's radiation energy. Opaque powdered materials such as talc, kaolin, zinc oxide, calcium carbonate, magnesium oxide, and titanium dioxide applied in a dry form or incorporated in a suitable vehicle will serve as light-scattering agents. The first cosmetic light screen appeared in the United States in 1928 and comprised a combination of benzyl cinnamate and benzyl salicylate in an emulsion vehicle. The inclusion in sunscreens of chemical substances containing certain typical groupings in their molecular structure is responsible for the capacity of the screens to absorb energy in the ultraviolet and particularly in the latter's erythema range. In selecting sunscreen factors of economy, efficiency, and solubility (emulsifiability) are interrelated.

A knowledge of the particular region of the spectrum causing an abnormal light sensitivity is of importance when selecting a protecting substance so that it shall possess the appropriate absorption spectrum. Commercial light screens such as esters of *p*-aminobenzoic acid, salicylates, or anthracene derivatives generally absorb in the 290-320 m μ range.⁸ Any substance chosen as a sunscreen must absorb in the medium and long ultraviolet to give adequate protection. For this purpose the ideal screen would absorb within the 290-340 m μ range and at the same time display a high extinction coefficient. Visible light should pass through the protective barrier which should remain colourless and transparent. Very slight or no absorption of the long ultraviolet beyond 340 m μ should take place, since it is probable that these rays are responsible for tanning without appreciable erythema. Creams containing yellow Vaseline and opaque titanium dioxide absorb in the long ultraviolet and the short visible spectrum and are therefore cosmetically unacceptable. Screens should be stable to light, air, moisture and heat, or if decomposed under these conditions, should still have an absorption comparable to that of the original compound, and at the same time remain non-toxic and non-irritant. The compound should always be almost neutral on the skin, and possess a good solubility in the ointment base or the vehicle in which it is formulated. At the same time low solubility in the perspiration ensures more prolonged action. Sunscreens should be non-volatile so that they will not evaporate under normal conditions of use and should not be absorbed through the skin.^{5,10,14} The table¹³ includes a number of families of compounds that, by virtue of their molecular structure are of interest as sunscreens. The structural formulae indicated give some idea of the different chromophores employed to obtain absorption in the sunburn part of the spectrum. The benzene ring itself does not absorb sunburn radiations, there being an absorption band in the 250 m μ range.

Phenols display considerably greater absorption, and still more do benzoic acid, aminobenzoic acid and hydroxybenzoic acid, in the order given, with respect to the sunburn spectrum. This is due to the greater resonance within

the molecules of the stated substances. In summary, the chromophores of the above substances consist of a benzene ring in various forms of modification and combination. Mono and di-alkyl *p*-aminobenzoate esters have very favourable extinction values, and possess five to eight times the screening power of salicylates and anthracene derivatives, and over twice that of non-substituted *p*-aminobenzoate. Di-alkyl aminobenzoates display an absorption maximum in the sunburn spectrum and do not absorb beyond 340 m μ . They display a good stability in the presence of air and moisture, and are relatively non-toxic and non-irritant. The salicylates and the anthranilates are by far inferior to the above derivatives since they are irritant, unstable and, moreover, possess low extinction coefficients. Para-aminobenzoates discolour in sunlight, whereas a solution of methyl salicylate retains only fifty per cent. of its screening ability following exposure for four hours to the sun's rays.

Rôle of Isomerism

Isomerism plays an important rôle in determining absorption capacity. Thus the para isomer of aminobenzoic acid is quite superior to both the ortho and meta isomers, with respect to absorption in the sunburn spectrum. By contrast *o*-hydroxybenzoic acid (salicylic acid) has a comparatively high absorption while *p*-hydroxybenzoic acid has practically none. Salicylic acid is more effective as a sunscreen than its derivatives primarily because it has a higher extinction value. The same is true in the case of cinnamic acid, homomethyl cinnamate, and benzyl cinnamate as all possess reasonable absorptions in the sunburn spectrum but in all cases a low extinction coefficient.^{10,12,13,14}

Several screens have been investigated in recent years. Ten per cent. chloroquine diphosphate in a water-in-oil base has been found to absorb well below 360 m μ . However the

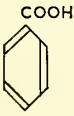
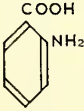
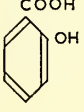
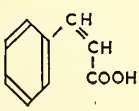
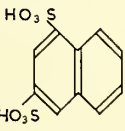
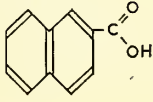
extinction coefficient was again low.^{4,5} The benzophenone derivatives have been found to be extremely useful screens. The derivative 2-hydroxy-4-methoxy 4'-methyl benzophenone⁽¹¹⁾ (mexenone, Uvistat) readily absorbs in the 250-350 m μ range and not only possesses the added advantage of low solubility but also high extinction. It should be noted that *p*-aminobenzoic acid, its esters and derivatives, are not only more soluble, but absorb in a narrower range. Evidence further suggests that the last named compounds give rise to some local sensitisation and to cross sensitisation with sulphonamides, topical anaesthetics, and sulphonyl ureas. The combination of *o*-aminobenzoic acid with the above benzophenone derivative in a water-in-oil emulsion base has been reported to be of some value.^{4,6,7} A comparative evaluation of the screening efficiencies of formulations containing salol (10 per cent.), pyribenzamine (10 per cent.), para-aminobenzoic acid (15 per cent.), and mexenone (10 per cent.), suggested that the latter was the most useful screen.³¹

Presentation of the Screening Agent

As a general rule screening material is not applied in a pure state but in a suitable vehicle, which may be aqueous, alcoholic, fatty, or a combination of those mentioned, either in the form of an emulsion or a solution. In the view of the prevalent vogue of oiling the skin prior to tanning several oils of vegetable origin, having a limited ability to absorb erythral radiation have been used. Sesame oil appears to be the most effective, taking out some 39 per cent. of the erythral radiation, which compares favourably with the 25 per cent. intake of coconut and peanut oils. Mineral oils are totally devoid of absorptive capacity.¹¹

The use of suitable ultraviolet screening agents has been found to be of value in preventing certain photodermatoses such as chronic light eruptions, solar dermatitis, or photosensitivity induced by drugs. Sunscreens do not solve the

FAMILIES OF SUNSCREENS BASED ON COMMON MOLECULAR STRUCTURES¹³

GROUP		RELATED COMPOUNDS	EXTINCTION	TOXICITY AND SENSITIVITY	STABILITY	ABSORPTION IN SUNBURN RANGE
<i>p</i> -Aminobenzoates		Dimethyl, ethyl, isobutyl and monoglyceryl esters.	High	Some evidence	Satisfactory	290 - 310 m μ
<i>o</i> -Aminobenzoates or anthranilates		Methyl, benzyl, lauryl, phenyl, and triethanolamine esters	Very low	Some evidence	Generally satisfactory	290 - 310 m μ
<i>o</i> -Hydroxybenzoic acid		Amyl, benzyl, phenyl (salol), thymol, homomenthyl and monoglyceryl esters	Low or very low	Some evidence	Very variable	290 - 310 m μ
Cinnamic acid derivatives		Benzylcinnamate Coumarinic acid 3-Phenyl coumarin Umbelliferone (7-hydroxy coumarin) β -Umbelliferone acetic acid β -Methyl umbelliferone β -Ethyl umbelliferone	Low	Free	Variable	295 - 305 m μ
Naphtholsulphonic acid		Naphtholsulphonates 1,5-Naphtholsulphonic acid 2,6-Naphtholsulphonic acid 2,8-Naphtholsulphonic acid 3,2-Naphtholsulphonic acid	Low	Some evidence	Good	290 - 310 m μ
Naphthoic acids		β -Oxynaphthoic α , β -Oxynaphthoic 2-Hydroxy 2-naphthoic	Low	Some evidence	Good	300 - 310 m μ

problem of protection completely but they do afford considerable added protection. They are useful in certain conditions that can be precipitated or aggravated by ultraviolet radiations, conditions such as herpes labialis, lupus erythematosus, acne rosacea, and certain cases of seborrhoeic dermatitis.

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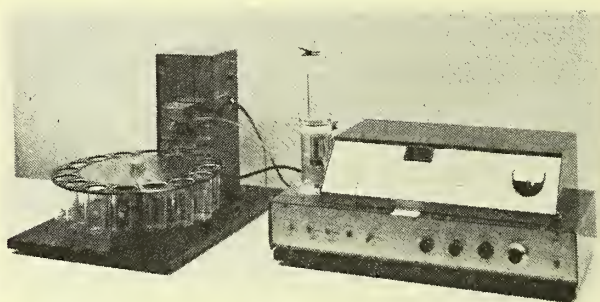
INSTRUMENTS AND APPARATUS

Capillary Pipettes.—Arnold R. Horwell, Ltd., 17 Cricklewood Broadway, London, N.W.2, announce a new Dade range of calibrated disposable capillary pipettes in four sizes, 20 mm., 25 mm., 50 mm., and 100 mm. The pipettes are individually calibrated, with a guaranteed tolerance of ± 1 per cent., and are colour coded for rapid identification, the colour-band also denoting the filling end. A rubber teat and suction adaptor is provided with each dispenser box which contains 288 pipettes of identical size.

Tissue-embedding Medium.—A new American tissue-embedding medium, Paraplast, is now available in Britain from Arnold R. Horwell, Ltd., 17 Cricklewood Broadway, London, N.W.2. The product, which is a mixture of highly purified paraffin and plastic polymers, has a melting point of 56° C. and in the melted state is clear and does not require filtering. Claimed more elastic than paraffin wax, Paraplast is found to produce a minimum of tissue wrinkling and compression. Serial sections as thin as 4 microns may be cut without crumbling and cracking of the ribbons, and sections containing bone may also be cut with ease. Cooling the block or knife is understood to be unnecessary. The material is supplied in the form of 1½-in. prism-shaped pieces in 5-lb. carton.

Demonstrations.—Baird & Tatlock (London), Ltd., have recently introduced a demonstration service for certain specialised laboratory instruments. At the present time, the list includes the B.T.L. Analmatic Karl Fischer titrator, the B.T.L. radioactive multi-counter and the B.T.L. adiabatic bomb calorimeter. In addition to those items, manufactured by Baird & Tatlock (London), Ltd., instruments for which the company is sole agent in the U.K. is also to be covered by the service. They include the Coleman nitrogen analysers, Coleman carbon and hydrogen analyser, Coleman oxygen analyser, Haake Rotovisko viscometer and Viscotester viscometer and the Emdeco prothrombin timer. The Demonstration Service covers England, Scotland and Wales, and requests for demonstrations should be made to the technical sales department, at 14-17 St. Cross Street, London, E.C.1 (Tel. No. HOLborn 2613).

Automatic Titrations.—Routine work in many laboratories may be simplified by using the Fisher Titralyzer, which is distributed by Shandon Scientific Co., Ltd., 65 Pound Lane, London, N.W.10. The Titralyzer carries out titrations automatically, giving



At left: Colour-coded wash bottle of A. Gallenkamp & Co., Ltd., London, E.C.2. At right: Fisher Titralyzer distributed by Shandon Scientific Co., Ltd., London, N.W.10.

a reproducible potentiometric end-point—acid/base, oxidation-reduction, precipitation, etc. During extensive field tests the instrument was found to have a precision of ± 0.3 per cent., which is consistently higher than manual titrations by experienced technicians. End-points are precisely determined even in strongly coloured or turbid solutions, and every titration is stopped at exactly the same point. Volumes are shown both on a digital counter and on a print-out system. The Titralyzer holds sixteen samples in 200-mil beakers on a turn-table. It presents each sample to the burette in turn, and removes it immediately a titration is completed; overshooting an

end-point is impossible. Each automatic titration takes from three to five minutes. The whole process may also be operated by hand.

"Colour-coded" Wash-bottles.—A. Gallenkamp & Co., Ltd., Christopher Street, London, E.C.2, offer colour-coded polythene wash-bottles with caps in white, red, blue, green or yellow for easy identification. The bottles are of an easy-to-handle design with outlet tube in the shoulder. A slender swan neck gives a smoothly controlled jet, and the shape of the tube enables the last few drops to be used. The neck of the bottle is tilted for easy filling, and the colour caps provide a positive seal. Capacities are 250 and 600 mls.

PHOTOGRAPHIC NOTES

With Built-in Speaker.—A carrying case with its own built-in 8 in. elliptical speaker for the Eumig Mark "S" projector has been introduced by Johnsons of Hendon, Ltd., Hendon Way, London, N.W.4. The unit, which has compartments to take three 400 ft. ciné reels, is finished in two-tone grey and includes a 30 ft. cable and plug.

Stolen Equipment.—Rank Audio Visual Division, Woodger Road, Shepherd's Bush, London, W.12, states that the following equipment has been notified as stolen: A Bell & Howell model 631 projector (serial number L7309) together with transformer, speaker and leads; S1A camera (653671) and lens (929728).

Four in One.—The latest advance in design of Kodak Instamatic cameras, recently announced, comprises a series of cameras that allow four flash pictures to be taken without changing bulbs. The new cameras use compact four-shot devices called "flashcubes," which were introduced by Sylvania Electric Products Company. Each "flashcube" consists of four small blue flashbulbs and reflectors built into a one-inch cube, which turns to a fresh

flash position after each picture—automatically or as the film is advanced. The new cameras and the flashcubes will not be available outside the North American Continent until Spring, 1966.

A Finisher's Offer.—Photo Laboratories (London), Ltd., Tay Building, Kensal Rise, London, N.W.10, are offering free to their London photographic dealers a tough fibreboard tray specially designed to carry the photograph wallets in which the company returns customers' films after processing. The trays facilitate the handling and quick identification of customers' prints.

N.H.S. STATISTICS

In BARNSELY during April 37,806 prescriptions (26,240 forms) were dispensed at a total cost of £17,634. The average cost per prescription was 111.94d.

In LEEDS during April 262,168 prescriptions (173,638 forms) were dispensed at a total cost of £129,692. Average cost per prescription 118.73d.

In STAFFORDSHIRE during 1964, 3,874,911 prescriptions were dispensed at a total cost of £1,794,000, an average of 111.16d. per prescription.

Boosting Pyrethrum Production

NEW GUINEA VENTURE FOR BRITISH INSECTICIDE MAKERS

THE Administration of the Territory of Papua and New Guinea are collaborating with Stafford Allen & Sons, Ltd., in producing pyrethrum on a large scale in the Western Highlands of New Guinea. Supervised by the administration, several thousand acres of pyrethrum flowers are already under cultivation there and the company have completed the erection of an extraction plant at Mount Hagen.

Till now the main growing areas of pyrethrum on a commercial basis have been Kenya, Tanganyika and Ecuador but there is a current world shortage of pyrethrum extract at a time when its use by insecticide manufacturers is constantly increasing. Thus the project in which the company are investing some £250,000 would appear timely.

It was in 1960 that while investigating possible new growing areas to insure against a likely shortage, experts from Messrs. Stafford Allen were invited by the Administration in North Borneo to look at the possibility of establishing a pyrethrum industry there. Subsequent reports showed that ideal conditions existed for the growth of the plants on a commercial scale.

Testing the Efficiency

In testing the insecticide efficiency of various extracts of pyrethrum the scientists have to rear flies in specially adapted rooms where temperature and humidity are maintained at the proper levels. The breeding adult flies are housed in many glass-fronted cages. The eggs are collected daily from the food and placed in jars. The grubs emerge and eventually the housefly appears from the pupal case after a dormant period. A measured dose of the product under test is sprayed into chambers containing hundreds of the insects. The testing chambers vary in size from a small flask to anything up to a room of 1,500 cu. ft. capacity.

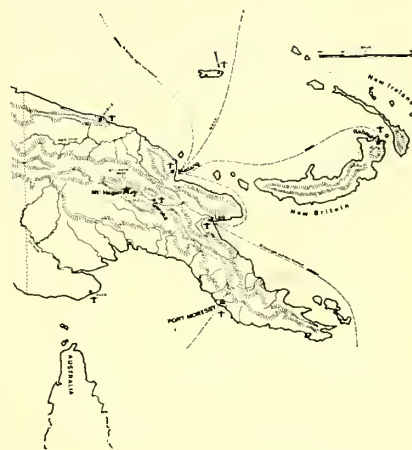
Following such exhaustive tests the company state that their scientists found both mortality results and "knockdown" figures were superior when New Guinea extracts were employed even though the extracts under test had all been adjusted to contain the same quantity of pyrethrin.



Section of a field of pyrethrum flowers being harvested. Below, map shows relative position of Mount Hagen factory to chief ports in New Guinea and to Australia.

As is well known pyrethrum will only flourish and produce economic quantities of the active principles under a specific combination of altitude, climate and soil conditions. Experience in Africa has shown that political climate is just as important as temperature and rainfall for the continued success of an industry. New Guinea would appear to offer that stable political background. Altitude is probably one of the most important single factors which decides whether pyrethrum can be grown successfully or not and in the Western and Eastern Highlands plenty of rich arable land at the ideal altitude provides that requirement. With a temperature range of 70° to 90°F. throughout the year, sunshine, with adequate rainfall and equal hours of day and night at all seasons, exactly the type of climate needed for the successful cultivation of top quality pyrethrum flowers, is available.

By planting a selected strain of pyrethrum flower (*Chrysanthemum Cinerariaefolium*) in different areas, the harvest period has been spread right through the year, thus avoiding periods of glut and scarcity. The extraction plant at Mount Hagen is located in a



valley surrounded by some of the most inaccessible country in the world. Plans are afoot for the extension of the air strip at Mount Hagen so that it can become a stop-over on the main Sydney-Port Moresby flights, and a modern road is being built to link Mount Hagen with the coast.

Most of the 2 million people, at present living in New Guinea, lead a rural agricultural existence. A few are engaged in copper, cocoa, coffee or rubber production, timber cutting is also an important industry. However, those activities make only a small demand on the labour force, so the introduction by Stafford Allens of pyrethrum growing on a commercial scale, is viewed as a development of major importance to the young territory. The new industry will provide a cash crop for the majority of the highland population, and it is clear that as production increases, the pyrethrum crop will prove to be one of New Guinea's most important exports and one of her largest sources of revenue from overseas, at the same supplying a proportion of the world's pyrethrum requirements.



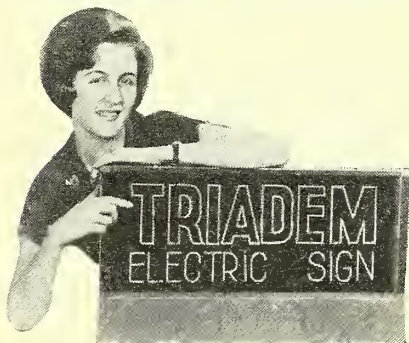
Vast areas are available for cultivation as the view from the airstrip at Mount Hagen indicates.

SHOPFITTING AND DISPLAY

Rod Dressing.—Pollard's rod dressing is fully adjustable forward, backward, up, down and sideways, creating an original setting by the turn of a wingscrew. Makers are E. Pollard & Co., Ltd., Highbury Grove, London, N.5.

Stacking Chair.—The Flywate upholstered stacking chair of Charles Shoebotham, Ltd., Albert Street, Redditch, Worcs, is constructed in polished aluminium alloy tubing with padded seat of Lionide. It is obtainable in a variety of shades and patterns.

Versatile Electric Signs.—Three messages, four colours, day-and-night brilliance, light weight, compactness, quiet running, and low current consumption



are advantages claimed for the Triadem electric sign of KGM Electronics, Ltd., Burdolph Road, Richmond, Surrey. The signs are each 25½ in. wide by 14½ in. high by 5½ in. deep. Message is 23½ in. x 11½ in. Weight is 14 lb.

Daylight from Overhead.—Domes and rooflights in Perspex PVC are specialties of E. D. Hinchliffe & Sons, Ltd., Upper Church Lane, Tipton, Staffs. The domelights include models fitted direct to curbs, domes with fixed aluminium frames for fitting to curbs, and domes fitted to fixed aluminium frames that may incorporate ventilators.

Floor Maintenance Automation.—Floor Treatments, Ltd., High Wycombe, Bucks, recently launched a "rent yourself a profit" scheme that cuts out capital expenditure on floor maintenance automation. Under the plan, machines that cover big expanses of floor at high speed are available at rentals that bring down the cost to a fraction of that of using other methods.

Miniature Fountain.—A "tinkly romantic fountain" suitable for use in cosmetic departments, and designed by Mr. M. Hart, is marketed by Stoke Fountains, Ltd., 141 Croydon Road,



Caterham, Surrey. The fountain has a transparent green Perspex bowl and the base houses an electric bulb which throws a diffused light on the flowers and feathery sprays. "It is very pretty to look at and the thousands of sparkling waterdrops refresh the air." No plumbing is involved. The bowl is filled with three pints of water and the electricity supply is switched on.

Finished for Long Life.—Main components of the Showrax range of shopfitting equipment supplied by Storax, Ltd., Tower Works, Northfleet, Kent, are now made from sheet steel with durable plastic coating. A new form of ticket-rail in formed-aluminium section is now supplied and end brackets have protectors for the ends of the rail. A bracket adjustable to three angles has been added to the number of accessories for the system.

No Overheating.—The Shopspot 150 watt lamp supplied by Harris & Sheldon Lighting, Ltd., 180 Aston Hall Road, Birmingham, 6, is available with a variety of mountings for use as floor of ceiling unit or for attachment to a wall on bar or tube. A swivel clamp gives complete directional control. The lampholder has no springs or plungers giving, it is claimed, freedom from overheating troubles. A number of circular fluorescent lamps have recently been added to the range offered by the company.

For Persuasion and Information.—Norman Pendred & Co., Ltd., Gladiator Street, London, S.E.23, have introduced Number 7 ticket rail which, besides its space for the price ticket, is slotted to allow the insertion of a card (which may be hand-written) bearing a sales message. Designed to clip-on to glass shelves and dividers or to stand free the rail is made of black plastic. The company also supplies ticket holders with spring steel clips for attachment to a bottle neck.

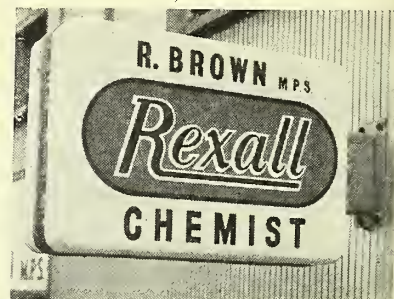
"Marble of the Future."—A new form of artificial marble with, it is claimed, the decorative qualities and none of the disadvantages of real marble is available from Tiberian, Ltd., 10 Upper Berkeley Street, London, W.1. Known as Tiberian marble, the material is manufactured from a special grade of Cellobond polyester resin supplied by British Resin Products, Ltd. It is understood to have phenomenal resistance to weather and atmospheric corrosion, and to be stain proof.

Two-message "Animated" Signs.—An illuminated display unit whose sales message dissolves into and disappears behind another, then returns in a constant alternation has sold to a total of 15,000 in the United States and is now available in Britain. The makers claim that it is many times more effective than an ordinary showcard or poster. The idea was developed five years ago by the Stephen William Co., Chicago, and is suitable for both temporary and permanent advertisements of any size, externally or internally (hoardings, window displays and point-of-sale advertisements). Essentially it consists of two sets of narrow vertical sliding panels,

slightly overlapping each other, with pictures and slogans reproduced upon them. A synchronised electric motor moves the panels continually in front of and behind each other. The signs may be produced to any size, but standard units vary from 6 x 4 in. for point-of-sale displays up to 12 x 6 ft. for posters. Generally only two messages are used, though the signs may be adapted (and of course increased in size thereby) for any number of pictures. The design or message is usually transferred by silk screen printing from the original on to the panels of cardboard (for the smaller internal units) or steel for the larger, enabling any colour combination to be used. The complete message cycle takes 8 sec. Known as the Ak-shun, the device is fully covered by patents. Sponsors of the sign in Britain are the Stephen-William Co., Ltd., 85 London Wall, London, E.C.2.

Illuminated Ceilings.—Lumitron, Ltd., 33 Alfred Place, London, W.C.1, have released a new leaflet illustrating illuminated ceiling systems which can accommodate several types of diffusers. Systems available are types "A" and "B." The tracking used on both systems is of extruded aluminium and can be suspended from any ceiling structure with the minimum of component parts and without any special tools. System "A" is designed to support opal corrugated plastic diffusers and is an economical method of providing a soft diffused light over large areas. System "B" is designed to accommodate diffuser panels. Six types are available ranging from ½ in. moulded opal plastic louvres to sparkling prismatic lens panels, which are entirely new to the U.K.

A Lamp That Switches Itself Off.—A lamp unit that switches itself off when daylight arrives and on again when darkness comes has obvious uses in shop display. Such a lamp is the Phoswitch multi-purpose light. The unit is housed in a stoved-enamel steel case suitable for use either indoors or out and for wall suspension or to hang from a chain mounting. Light output is equivalent to a 60-watt tungsten lamp. It is sold complete with six foot of three core cable for connection to a 200-50 volt a/c mains supply.



SIGN BRINGS MORE SALES: Increased sales by chemists using one of the signs illustrated are reported by Rexall Drug Co., 19 Castle Boulevard, Nottingham. The attractive signs are specially made by Franco Signs, 15 King Street, London, S.W.1.

TRADE REPORT

The prices given are those obtained by importers, or manufacturers for bulk quantities or original packages. Various charges have to be added whereby values are in many instances augmented before wholesale dealers receive the goods into stock. Crude drugs and essential oils vary greatly in quality and higher prices are charged for selected qualities.

LONDON, AUGUST 18: The low level of inquiry in all markets continued during the week and no improvement is expected for several more weeks whilst the holiday season is under way. Cape and Curaçao ALOES were easier by 5s. per cwt. Supplies of PAPAIN were more plentiful at origin and forward prices were easier. PEPPERS did not hold the advanced prices of the previous week. IPECACUANHA remained scarce on the spot but Costa Rican material was easier in price. Portuguese ERGOT advanced by one shilling per lb. at source and spot holders raised their quotations by sixpence. Jamaican GINGER was not being offered for shipment, with the result that spot material rose by 55s. per cwt. SENNA quotations were unchanged but it was reported from India that merchants were having to pay the collectors more this year for PODS and LEAVES. Shipments from the port of Tuticorin during July were as follows:—

	U.K. tons	U.S. tons	EUROPE tons
SENNAL	—	—	190
LEAVES	—	—	177
PODS	—	—	—

In ESSENTIAL OILS the price of American SPEARMINT advanced by 10s. per lb. following sharp rises at origin through new crop shortages. Easier per lb. for shipment were East Indian SANDALWOOD (down one shilling); BOIS DE ROSE (three pence); Ceylon CITRONELLA (three-half pence); and Chinese PEPPERMINT (three pence).

STRYCHNINE ALKALOID was easier by 3s. per oz. and its salts by 2s. 6d. MENAPHTHONE at 11s. 6d. per kilo was down 10s. per kilo.

Pharmaceutical Chemicals

Where material is of foreign origin prices given below may be subject to import surcharge.

AMIDOPYRIN. — Per lb. 16s. 8d. for 5-cwt. lots; 1-cwt., 17s. 5d.

AMPHETAMINE. — BASE is 150s. per kilo in 5-kilo lots and SULPHATE, 120s.; DEX-AMPHETAMINE, 270s. per kilo for 10 kilos.

AMYLBARBITONE. — B.P.C. is 74s. per kilo for less than 25-kilo lots. SODIUM is 10s. per kilo more.

BARBITONE. — SODIUM derivative is 46s. 8d. per kilo for 50-kilo lots.

BRUCINE. — In 1,000-oz. lots, ALKALOID is 19s. per oz. and SULPHATE, 17s. 6d. per oz.

BUTOBARBITONE. — B.P.C., 80s. per kilo for 25-kilo lots and over.

CATHARIDIN. — Per oz. 222s. 6d. for 4-oz. lots.

COCAINE. — 35-oz. lots HYDROCHLORIDE, 105s. per oz.; ALKALOID, 115s. per oz. Subject to D.D.A. Regulations.

CYCLOBARBITONE. — Under 25 kilos: B.P., 73s. per kilo. CALCIUM, 80s. per kilo.

HEXOBARBITONE. — 25-kilo lots or over, 115s. per kilo.

METHYL PHENOBARBITONE. — B.P.C., 78s. per kilo for less than 25-kilo lots.

NARCOTINE. — ALKALOID and HYDROCHLORIDE, 11s. 4d. per oz. (399s. 6d. kilo) for under 35-oz. lots. Containers below 1-kilo charged 1s. 6d. per container.

PENTOBARBITONE. — 25-kilo lots and over are 107s. 6d. per kilo.

PETHIDINE HYDROCHLORIDE. — Subject to D.D.A. Regulations, 5-kilo lots, 300s. per kilo.

PHENOBARBITONE. — Spot rates 50-kilo lots, 47s. 6d. per kilo. SODIUM SALT, 54s. 6d.

PHOLCODINE. — 8-oz. lots, 95s. 9d. per oz. (3,377s. per kilo).

PHTHALYL SULPHATHIAZOLE. — Five-kilo lots, 31s. per kilo.

QUINALBARBITONE. — Sodium salt is 110s. per kilo for 25-kilos and over.

STRYCHNINE. — 100-oz. lots; ALKALOID, 9s. per oz. SULPHATE and HYDROCHLORIDE, 8s.

SUCCINYL SULPHATHIAZOLE. — Five-kilo lots, 32s. 6d. per kilo.

SULPHACETAMIDE. — 50-kilo lots, 54s. per kilo; SODIUM, 55s.

SULPHADIAZINE. — Five-kilo lots, 65s. per kilo; 50-kilo lots, 60s.

SULPHADIMIDINE. — 50-kilo lots are 60s. per kilo.

SULPHAGUANIDINE. — 100-kilo lots, about 19s. 6d. per kilo.

SULPHAMETHIAZOLE. — Per kilo, 5-kilo lots, 100s.; 50-kilos, 95s.

SULPHANILAMIDE. — 50-kilo lots, 13s. 1d. per kilo.

SULPHAPYRIDINE. — Five-kilo lots, 120s. per kilo.

SULPHATHIAZOLE. — 100 kilos, 32s. per kilo; 50 kilos, 33s.

Crude Drugs

ALOES. — Cape primes and Curaçao, 265s. per cwt. spot. Shipment, 260s., c.i.f.

BUCHU. — Spot, 5s. per lb. Stocks at origin exhausted.

CASCARA. — Spot, 225s. per cwt.; 1965 peel for shipment, 216s., c.i.f.

CHILLIES. — Zanzibar, spot, not quoted; shipment, 320s. per cwt., c.i.f.

ERGOT. — Portuguese, spot, 11s. per lb.; shipment, 11s., c.i.f., nominal. Continental, 10s., spot.

GINGER. — (Per cwt.). Nigerian, August-September shipment, split, 85s., c.i.f.; peeled, 210s. spot; African, spot, 230s. per cwt.; shipment, August-September, 220s., c.i.f. Jamaican No. 3, spot, 380s. nominal; shipment, not quoted. Cochinchina, spot and shipment, 300s.

GUM ACACIA. — Kordofan cleaned sorts, 160s. per cwt.; spot; shipment, 156s., c.i.f.

IPECACUANHA. — High testing material short on spot. Matto Grosso for shipment, 55s. per lb., c.i.f. and spot, 57s. 6d. Costa Rican, 72s. spot, nominal; shipment, 70s., c.i.f. Colombian, 54s. 6d., c.i.f. for shipment.

NUX VOMICA. — Cochinchina, 110s. per cwt. on the spot; shipment, 95s., c.i.f.

PAPAIN. — Prices easing. East African No. 1, 21s. 6d. per lb., c.i.f. with Ceylon about the same price.

PEPPER. — White Sarawak, spot, 3s. 8½d. per lb.; shipment, 3s. 8d., c.i.f. Black Sarawak, 3s. 4d., spot, nominal. Black Malabar, spot, not quoted; shipment, 407s. 6d. per cwt., c.i.f.

SARSAPARILLA. — Jamaican native red, spot, 3s. 6d. per lb.; shipment, 3s., c.i.f.

SEEDS. — (Per cwt.). ANISE. — Spanish, 245s., duty paid. CARAWAY. — Dutch, 135s., duty paid. CELERY. — Indian, 180s., spot; August-September shipment quoted at 170s., c.i.f. CORIANDER. — Steady. Moroccan, 60s., duty paid; shipment, Moroccan, 51s. 6d., c.i.f.; Rumanian whole, 60s., c.i.f. CUMIN. — Market continues firm.

Indian, 315s.; Moroccan, 330s., duty paid; shipment, Indian quoted at 295s., c.i.f.; Moroccan, 287s. 6d., c.i.f. DILL. — Indian, 120s., spot; shipment, 92s. 6d., c.i.f. FENNEL. — Chinese unchanged at 130s., duty paid; Indian not available; shipment, Chinese, 112s. 6d., c.i.f.; Indian, 140s., c.i.f. FENUGREEK. — Moroccan, 48s. 6d., duty paid; shipment quoted at 40s., c.i.f. MUSTARD. — English, 60s. to 80s. according to quality.

SENNAL. — (Per lb.). Tinnevely LEAVES spot: Prime No. 1, 2s.; No. 3, f.a.q., 1s. 1d. Shipment; No. 3, 1s., c.i.f. PODS: Tinnevely hand-picked, 1s. 8d. to 2s. as to quality; spot, manufacturing, 1s. 1d.; shipment, 11d., c.i.f. Alexandria PODS: Hand-picked from 7s. to 8s.; manufacturing, forward, 2s. 6d., c.i.f.

WAXES. — (Per cwt.). BEES' — Dar-es-Salaam, 445s.; shipment, 410s.; Sudanese, spot, 400s., in bond; shipment, 385s., c.i.f. CANDELLILLA, spot, 465s.; forward, 460s. landed. CARNAUBA, fatty grey, spot, 300s.; shipment, 285s., c.i.f.; prime yellow, spot, 630s.; shipment, 587s. 6d., c.i.f.

Essential and Expressed Oils

ALMOND. — Imported sweet oil is 7s. per lb. spot.

ANISE. — Chinese, 9s. 6d., spot, shipment, 9s. 6d., c.i.f.

BERGAMOT. — Spot quotations for best oil are about 105s. per lb.

BIRCH TAR. — Rectified, 3s. per lb.

BOIS DE ROSE. — Brazilian spot, from 16s. 6d.; shipment, 16s., c.i.f.

CADE. — Spanish from 2s. per lb. for drum lots.

CALAMUS. — Spot, from 70s. to 100s. per lb. as to origin.

CAMPHOR, WHITE. — Chinese for shipment, 4s. 6d., c.i.f., per kilo; spot, 2s. 9d. lb., duty paid.

CITRONELLA. — Ceylon, spot, 5s. 1½d.; shipment, 4s. 7½d. per lb., c.i.f.; Formosan and Chinese, 4s. 6d., in bond; shipment, 4s. 4d., c.i.f.

EUCALYPTUS. — B.P. 70-75 per cent., 5s 9d. per lb.; 80-85 per cent., 6s. 3d.

PEPPERMINT. — *Arvensis*: Chinese for shipment, 10s. 3d., c.i.f.; spot, 10s. 6d. Brazilian for shipment, 11s. 6d., c.i.f.; spot, 11s. 6d. *Piperita*: Italian, 48s. to 60s., spot. American from 32s. 6d. per lb. as to make.

SANDALWOOD. — Mysore, spot, 108s. per lb. East Indian for shipment, 107s. 6d., c.i.f.

SPEARMINT. — American oil on the spot, 45s. per lb.

TANGERINE. — Sicilian best quality about 46s. per lb.

THYME. — From 20s. to 25s. 6d. per lb. as to test.

VETIVERT. — Bourbon, spot, 85s. to 90s. per lb.

YLANG YLANG. — Best oil quoted about 135s.

UNITED STATES REPORT

NEW YORK, AUGUST 17: Lower MERCURY prices brought some of the MERCURIALS down, making CALOMEL \$9.37 a lb., down 39 cents. PYRIDOXINE HYDROCHLORIDE fell \$5 a kilo to \$65. Higher per lb. among ESSENTIAL OILS were SPEARMINT at \$7.25 (up \$1.15); PATCHOULI, \$11.50 (50 cents); and PIMENTO LEAF \$3.80 (five cents).

PATENTS

COMPLETE SPECIFICATIONS ACCEPTED

From the "Official Journal (Patents)," July 28

Compositions containing dibenzoquinolizines, Smith Kline & French Laboratories, 1,004,077.
Process for the preparation of phenothiazine derivatives, Soc. Industrielle pour la Fabrication des Antibiotiques, 1,004,079.
Toilet boxes or compacts, Laughton & Sons, Ltd., 1,004,145.
Toilet preparations, Shiseido Co., Ltd., 1,004,174.
Fertiliser compositions, Fisons Fertilizers, Ltd., 1,004,180.
Cyclosemiactals of 18-oxo-11 β -hydroxypregnanes and process for their manufacture, CIBA, Ltd., 1,004,184.
 British patent specifications relating to the above will be obtainable (price 4s. 6d. each) from the Patent Office, 23 Southampton Buildings, Chancery Lane, London, W.C.2, from September 8.

From the "Official Journal (Patents)," August 4

Electrolysis of aqueous hydrochloric acid, Asahi Kasei Kogyo K. K., 1,004,207.
Manufacture of gelatin and like products, Johnson & Co. (London), Ltd., 1,004,215.
Process for producing L-aspartic acid, Ajinomoto Co., Inc., 1,004,218.
Gel compositions, Colgate-Palmolive Co., 1,004,250.
Flexible absorbent sheet, Johnson & Johnson, 1,004,271.
Bottle caps or stoppers, Morell, G., 1,004,277.
Process for reacting organic compounds with sulphur trioxide, Proctor & Gamble Co., 1,004,279.
Manufacture of photographic colour images, Gevacr Photo-Producten N.V., 1,004,281.
Germicidal compositions and methods for preparing the same, West Laboratories, Inc., 1,004,282.
Steroid compounds, Merck & Co., Inc., 1,004,283.
Procedures and compositions for treatment of farinaceous materials, Wallace & Tiernan, Inc., 1,004,285.
Manufacture of carboxylic acid esters, Schering, A.G., 1,004,286.
Derivatives of nitrofurant, Norwich Pharmacal Co., 1,004,287.
Pyrimidine compounds and methods for their production, Parke, Davis & Co., 1,004,289.
Method of preparing derivatives of 6-amino-penicillanic acid, Spofa, Sdruzeni Prodniku Pro Zdravotnickou Vyrobu, 1,004,290.
Oxide-3,5-cyclosteroid compounds and process for preparing the same, Sankyo Co., Ltd., 1,004,298.
Photographic emulsions, Ilford, Ltd., 1,004,302.
Cleaning compositions, P.C. Products (1001), Ltd., 1,004,303.
1,6-Dimethyl-ergoline 1 derivatives, Soc. Farmaceutica Italia, 1,004,310.
Insecticidal compositions, Fisons Pest Control, Ltd., 1,004,327.
Photographic processing, Eastman Kodak Co., 1,004,334.
Multi-unit packet, Mead Corporation, 1,004,349.
Preparation of aluminium sulphate, Olin Mathieson Chemical Corporation, 1,004,360.
Aerosol dispensing devices, Meshberg, P., 1,004,363.
Production of phosphorus, Albright & Wilson (Mfg.), Ltd., 1,004,382.
Aerial cameras, Optische Industrie De Oude Delft N.V., 1,004,421.
Penicillins, Recherche et Industrie Therapeutiques, 1,004,467.
Chroman derivatives, Pfizer, Ltd., 1,004,468.
Compounds of the androstane series, G. D. Searle & Co., 1,004,470.
Apparatus for developing photographic emulsion bases, Kampovsky, O., and Kampovsky, U., 1,004,505.
Non-crystallising syrup of high fermentables content and the process of making same, Anheuser-Busch, Inc., 1,004,523.
Apparatus for the induced infusion of liquid from flexible liquid container, Abbott Laboratories, 1,004,533.
3:3-Dichloro-1:1:2:3-tetrafluoropropane, Imperial Chemical Industries, Ltd., 1,004,606.
L-glutamic acid by fermentation, Asahi Kasei Kogyo K.K., 1,004,616.

Photographic camera, Franke & Heidecke, 1,004,620.
Halogenated propane, Imperial Chemical Industries, Ltd., 1,004,637.
Light sensitive silver halide photographic emulsions, Kodak, Ltd., 1,004,658.
Phenyl-cyclohexyl-alkyl-amines, Boehringer & Soehne, 1,004,659.
Production of compounds containing sulphur and nitrogen, Badische Anilin- & Soda-Fabrik A.G., 1,004,660.
D - (+) - 2 - (6) - alkoxy - 3' - indolyl) - propylamines, Sandoz Patents, Ltd., 1,004,661.
Mercapto tetracyclines, Pfizer & Co., Inc., 1,004,664.
Steroids and the manufacture thereof, Upjohn Co., 1,004,667.
Steroids and the manufacture thereof, Upjohn Co., 1,004,668.
Molecular sieving agent and a method for making same, Pharmacia A.B., 1,004,669.
Penicillins, Becham Research Laboratories, Ltd., 1,004,670.
Antifungal substance and process for its production, S. Shimada, 1,004,726.
Rapid processing of exposed photographic materials, Eastman Kodak Co., 1,004,781.
Antibiotics, Sandoz Patents, Ltd., 1,004,835.
Preparation of nucleotide 5'-polyphosphates, Schwarz Bio Research, Inc., 1,004,906.
Germicidal anionic detergent-iodine complexes, West Laboratories, 1,004,918.
 British patent specifications relating to the above will be obtainable (price 4s. 6d. each) from the Patent Office, 23 Southampton Buildings, Chancery Lane, London, W.C.2, from September 15.

TRADE MARKS

APPLICATIONS ADVERTISED BEFORE REGISTRATION

From the "Trade Marks Journal," August 4

For all goods (3)
 KEYMORE, 867,095, by Wimsol, Ltd., Keighley, Yorks. Device, 875,122, by H. M. H. Publishing Co., Inc., Chicago, 11, Illinois, U.S.A. Device with word SUNLIGHT, 875,805, by Unilever, Ltd., Port Sunlight, Ches.
For preparations for the hair (3)
 ISIS, B871,928, by Unilever, Ltd., Port Sunlight, Ches.
For perfumes, toilet preparations (not medicated) cosmetic preparations and eau de Cologne (3)
 EL BALA, 873,201, by Picot, Ltd., London, W.6.
For soaps and detergents (not for use in industrial or manufacturing processes) (3)
 CADYL, 874,955, by Unilever, Ltd., Port Sunlight, Ches.
For preparations for use as nutritional aids by addition to foodstuffs for ruminants (5)
 CATTLE-IZER, B864,713, by Quaker Oats, Ltd., Southall, Middlesex.
For hygienic purposes, chemical products for hygienic purposes, medicated plaster, bandages, preparations for killing weeds and destroying vermin; and germicides and antiseptics, all being disinfectants (5)
 Device, B860,018, by Chemie Grünenthal, G.m.b.H., Stolberg/Rhineland, Germany.
For medicines for human use in the treatment of indigestion and acidity of the stomach (5)
 TUMS, 863,805, by Lewis-Howe Co., St. Louis, Missouri, U.S.A.
For pharmaceutical products; bath preparations (medicated); deodorants; embrocations; insect repelling preparations for personal use; pomade (unmedicated); medicine cases (fitted) for the pocket; and syringes (5)
 12 BORE, 868,031, by Sterwin, A.G., Zug, Switzerland.
For antibiotics and antibiotic preparations (5)
 TOPIMYCIN, 869,767, by A/S Apothekernes Laboratorium for Specialpræparater, Oslo, Norway.
For serums, vaccines and tuberculin (5)
 Device with words and letters BERNA PRODUCTS SD, 870,203, by Swiss Serum and Vaccine Institute and Institute for the Research of Infectious Diseases, Berne, Switzerland.
For pharmaceutical and medicinal preparations and substances (5)
 APPETROL, 870,414, by Carter Products, Inc., New York, U.S.A.

For deodorants for personal use (5)
 FOIL, 871,290, by Fisons Pharmaceuticals, Ltd., Loughborough, Leics.
For dermatological products for veterinary use; pharmaceutical preparations for use in treating loss of hair in animals (5)
 NACK, 873,796, by Giorgio Rialdi, Genoa, Italy.
For pharmaceutical tonic preparations for human use (5)
 VIGATRIL, 874,441, by Unilever, Ltd., Port Sunlight, Ches.
For pharmaceutical preparations (5)
 DEPLETAN, 875,375, by Marshall's Pharmaceuticals, Ltd., London, W.C.2.
For medicated eye preparations (5)
 P. V. CARPINE, 876,487, by Allergan Pharmaceuticals, Inc., Santa Ana, California, U.S.A.
For pharmaceutical preparations and substances (5)
 SPRENAL, 877,638, by Aspro-Nicholas, Ltd., Slough, Bucks.
For veterinary products (5)
 PECUTRIN, 877,750, by Farbenfabriken Bayer, A.G., Leverkusen, Germany.
For pharmaceutical preparations and substances for human and veterinary use (5)
 LOCAFORM, 879,182, by CIBA, Ltd., Basle, Switzerland.
For illuminated shaving mirrors (20)
 MAGNI-LITE, 870,018, by Fancy Metal Goods, Ltd., Birmingham, 1.
For combs, brushes for domestic and toilet purposes and glassware (21)
 12 BORE, 868,036, by Sterwin, A.G., Zug, Switzerland.

From the "Trade Marks Journal," August 11

For perfumed colognes (3)
 REVLO AQUAMARINE, B836,265, by Revlon, Inc., New York, U.S.A.
For non-medicated toilet preparations and cosmetics, all in liquid form (3)
 COTY NOTTURNA LIQUID BEAUTY, B868,226, by Coty (England), Ltd., London, W.1.
For soaps, perfumes, cosmetics, hair lotions and toilet preparations (non-medicated) (3)
 RAYETTE DRI-MIST, 871,670, by Rayette Beauty Products, Ltd., Slough, Bucks.
For non-medicated toilet preparations; dentifrices, and preparations for cleaning artificial dentures; cosmetic preparations and toilet articles (3)
 SQUIBB, B871,794, by E. R. Squibb & Sons, Ltd., Twickenham, Middlesex.
For cosmetics, nail polish, nail polish removing preparations, non-medicated toilet preparations, perfumes and perfumed soaps (3) and for medicated toilet preparations; and deodorants (5)
 GALA ROYAL, B872,381-82, by Gala of London, Ltd., Surbiton, Surrey.
For pharmaceutical preparations and substances (5)
 ETHNOR, 871,637, by Ethicon, Inc., Bridge-water, New Jersey, U.S.A.
For pharmaceutical preparations, not for external use (5)
 IMP-KYOWA, 871,998, by Kyowa Kakko Kogyo, K.K., Tokyo, Japan.
For pharmaceutical preparations (5)
 GMP-KYOWA, 872,000, by Kyowa Kakko Kogyo, K.K., Tokyo, Japan.
For pharmaceutical preparations for the treatment of ailments of the nose, throat and chest (5)
 LARYNGOPARINE, 872,258, by "Fo-We" Forschung-und Verwertungs-Anstalt, Vaduz, Liechtenstein.
For pharmaceutical preparations containing lobelin, for use in discouraging the habit of smoking (5)
 AFUMIN, 873,832, by Spofa, Sdruzeni Podniku Pro Zdravotnickou Vyrobu, Prague, Czechoslovakia.
For all goods (5)
 CEVIX, 875,358, by Boots Pure Drug Co., Ltd., Nottingham.
For pharmaceutical preparations and substances for human and veterinary use (5)
 EPILO, 876,556, by Smith, Miller & Patch, Ltd., London, E.C.1.
For pharmaceutical preparations and substances, all for use in the treatment of heart and circulatory disorders (5)
 DISONTIN, 877,551, by Knoll, A.G., Ludwigshafen-on-Rhine, Germany.

PRINT AND PUBLICITY



SHADE GUIDE: Lambert Chemical Co., Eastleigh, Hants, have introduced for their range of Poly hair colouring preparations (Polycolor, Polyfint, Polyblonde and Polyfair) the shade card illustrated.

PRESS ADVERTISING

BOOTS PURE DRUG CO., LTD., Station Street, Nottingham: Dulcils lozenges. In *Sunday Mirror*, *Daily Express*, *Daily Mail* and *Daily Record*, October 18 until March 1966.

DREAMLAND ELECTRICAL APPLIANCES, LTD., 30 High Street, Southampton, Hants: 1965 campaign for the company's range of electric blankets with emphasis on Warm-a-Zone underblankets and Dreamatic control for overblankets. In national Press.

THOS. GUEST & CO., LTD., 92 Carruthers Street, Manchester, 4: Sure Shield laxatives. In *Woman*, *Woman and Home*, *My Home*, *Woman's Own*, *Everywoman* and *Modern Woman*.

W. T. OWBRIDGE, LTD., Osborne Street, Hull: Vaporstik. In television journals.

SCOTT & BOWNE, LTD., 50 Upper Brook Street, London, W.1: Evex. In *Woman*, *Woman's Own*, *Woman's Realm* and *Woman's Mirror*. P. & M.-WARRICK, Penarth Street, London, S.E.15: Meggeson dyspepsia tablets. In *News of the World*, *People*, *Sunday Mirror*, *Sunday Express* and *Sunday Mail*.

WEST-SILTEN PHARMACEUTICALS, LTD., 9 Palmeira Mansions, Church Road, Hove, 3, Sussex:



DISPLAYING THE RANGE: A new counter display to contain the entire range of Sunsilk shampoos and hair spray. The display is being distributed to major retailers by Elida, Ltd., 43 Portman Square, London, W.1.

Kest. In national newspapers. The product is also being advertised on bus tickets in most major cities (except London).

Woman's Own: Free sachet of Steiner pearl foam shampoo and "sixpence-off" voucher with September 24 issue. In *Daily Mirror*, *Daily Mail*, *Daily Telegraph*, *Daily Express*, *Daily Sketch* and provincial Press.

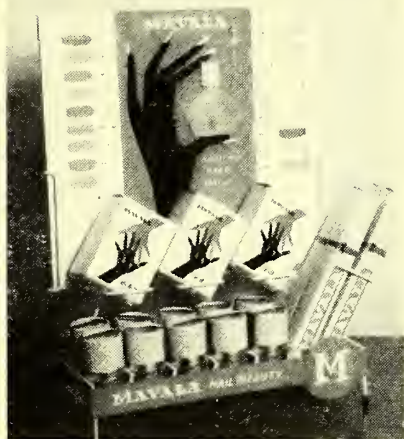
COMMERCIAL RADIO

RAYETTE PRODUCTS, LTD., 210 Bath Road, Slough, Bucks: Misty new formula and Misty crystal clear hair sprays. On Radio Luxembourg and Radio Caroline (north and south), Aqua-Net hair spray. On Radio London.

DISPLAY MATERIAL

LAUGHTON & SONS, LTD., Warstock Road, Birmingham, 14. "Palette" refillable display for Lady Jayne hairpins and hairgrips. Eight transparent tubes with colourful push-fit tops emerge from the top of the stand and five from an artist's palette at the front. As each is taken out it is easily replaced from a "self-dispensing" opening at side of display.

F. C. PATON (SOUTHPORT), LTD., P.O. Box 5, 1A Peets Lane, Southport, Lancs: Showcard for Paton's nail hardener and counter display unit for the company's mouth treatment.



FOR COUNTER DISPLAY: A new wire stand for products with shade chart. Makers are James, Samuel & Co., Ltd., 56 Fairfield Street, London, S.W.18.

PUBLICATIONS

Catalogues and Lists

PHOTOPIA, LTD., Hempstalls Lane, Newcastle, Staffs: Dealers' "split-up" price list.

Booklets and Leaflets

BRITISH GEON, LTD., Devonshire House, Piccadilly, London, W.1: "Breon PVC" (24-p. booklet describing the material's manufacture, properties and uses, including its rôle in chemical engineering).

GEVAERT, LTD., Great West Road, Brentford, Middlesex: "Agfa-Gevaert" (16-p. booklet illustrating the organisation and facilities of the company since "the fusion of Agfa-Gevaert into one economic unit").

HILGER & WATTS, LTD., 98 St. Pancras Way, Camden Road, London, N.W.1: Y144 Powder diffractometer (16-p. brochure).

WILLIAM MASON & SON, LTD., 25 Wellington Street, Leeds: "Modernisation with the Nordia system of selling" (4-p. folder).

PULLIN PHOTOGRAPHIC, LTD., 11 Aintree Road, Perivale, Middlesex: Konica cameras and Pullin photographic accessories (two folding leaflets).

SPICERS, LTD., 19 New Bridge Street, London, E.C.4: "Paper at Work, No. 4. Guide to international paper sizes."

WESTBROOK LANOLIN CO. (a subsidiary of Woolcombers, Ltd.), Daisy Bank, 109 Duckworth Lane, Bradford, Yorks: Golden Dawn Sebace self-emulsifying base (10-p. booklet).

Medical Propaganda

Manufacturers' leaflets, folders, booklets, etc., directed to doctors but available to pharmacists.

MAY & BAKER, LTD., Dagenham, Essex: "Nefrolan" (folder). "In nausea and vomiting . . . Avomine" (blotter). "Censedal . . . the obvious choice for daytime sedation" (card).



COUNTER UNIT: A new counter display unit issued by Richard Hudnut, Ltd., Eastleigh, Hants for the small size of Light and Bright hair lightener.

COMING EVENTS

Items for inclusion under this heading should be sent in time to reach the Editor not later than first post on Wednesday of the week of insertion.

Wednesday, August 25

MANCHESTER PHARMACEUTICAL GOLFING SOCIETY, Ormskirk Golf Club, Ormskirk, Lancs. Competition for the Avlon trophy.

Courses and Conferences

CITY OF LONDON COLLEGE, Moorgate, London, E.C.2: Export practice forum, dealing with international trade, marketing, export finance and legal aspects of export trade. Saturday mornings during Michaelmas and Lent terms commencing October 2.

FOOD GROUP, SOCIETY OF CHEMICAL INDUSTRY, School of Pharmacy, Brunswick Square, London, W.C.1. Symposium on food science research in the United Kingdom. September 21-22. Details from the Society, 14 Belgrave Square, London, S.W.1.

LIVERPOOL COLLEGE OF TECHNOLOGY, Byran Street, Liverpool, 3. A post-graduate course on "Recent changes in pharmaceutical legislation," designed for pharmacists in all branches of the profession, has been arranged for the evenings of October 7 and 21 and November 2 and 16. Course fee is £1 10s. Application forms may be obtained from the course organiser, Mr. N. H. Booth, department of pharmacy.

RETAIL TRADES EDUCATION COUNCIL. Two pilot one-day courses with the title "Managers as Trainers" are being organised in October for shop and branch managers with staffs of up to fifty. Venues are Bedford and Glasgow. Further details from the Council's training development officer, 56 Russell Square, London, W.C.1.

Exhibitions

ILFORD, LTD., in conjunction with Selfridges, Ltd., Oxford Street, London, W.1, are staging an exhibition of the work of the late James Jarché, F.R.P.S., "one of the greatest Press photographers of our time." Until September 5.

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